

Obstetrics &
Gynaecology | Collections

Lymph Notes

For those with a photo memory of the Department's book

And those without ...

We dedicate this what we think is "a work on white water"

*(If you didn't get the last phrase, it will be probably because it is
meaningless in English language but it is a very meaningful literally
translated Arabic phrase ^_^)*

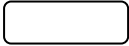




Index

Assessment algorithms.....	3
Diagrams.....	27
Collections.....	37
Incidence	37
Pathology	44
Investigations.....	46
Culture media	48
Tumor markers	48
Tests	49
Signs	52
Criteria	53
Scores	53
Diagnosis	54
Treatment.....	57
Operations.....	60
Numbers	63
Doses	66
Scientists.....	69
Positions	70
Tables	82

ASSESSMENT ALGORITHMS

In assessment schemes you have to FULLFILL THE DEFINITION OF THE CASE FIRST before applying the scheme

-The colour code (which won't probably be available in a black & white printed copy!!):

- *  Black rounded rectangle = History & examination
- *  Green rounded rectangle = Investigation
- *  Black Rectangle = Diagnosis
- *  Red rectangle = Management (ttt)
- *  Circle = Continue next page

The scheme is arranged from history & clinical examination to less invasive investigation to more invasive & expensive investigations & from more to less common (as much as possible!).

Although US is now available in many clinical settings that it may not be considered as an investigation , it is considered an investigation in this scheme.

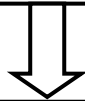
The general steps of any algorithm are

- 1-Fullfil the conditions stated by the definition of the case before applying the scheme
- 2-Exclude physiological causes if present
- 2-Assess the level of the lesion
- 3-Differentiate between conditions causing the same case at the same level starting by the most common or the less expensive/invasive management.

Now, let the game of mind begin!

GYN. ALGORITHMS

Pap smear interpretation



Pap smear

LSIL

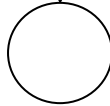
ASCUS

Treat as infection
(Antibiotics according to C & S)
+
Repeat Pap smear after 6 months

Recovery
(in > 60%)

LSIL or HSIL

Colposcopy
& biopsy



HSIL

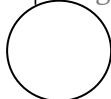
HPV DNA analysis (if present)

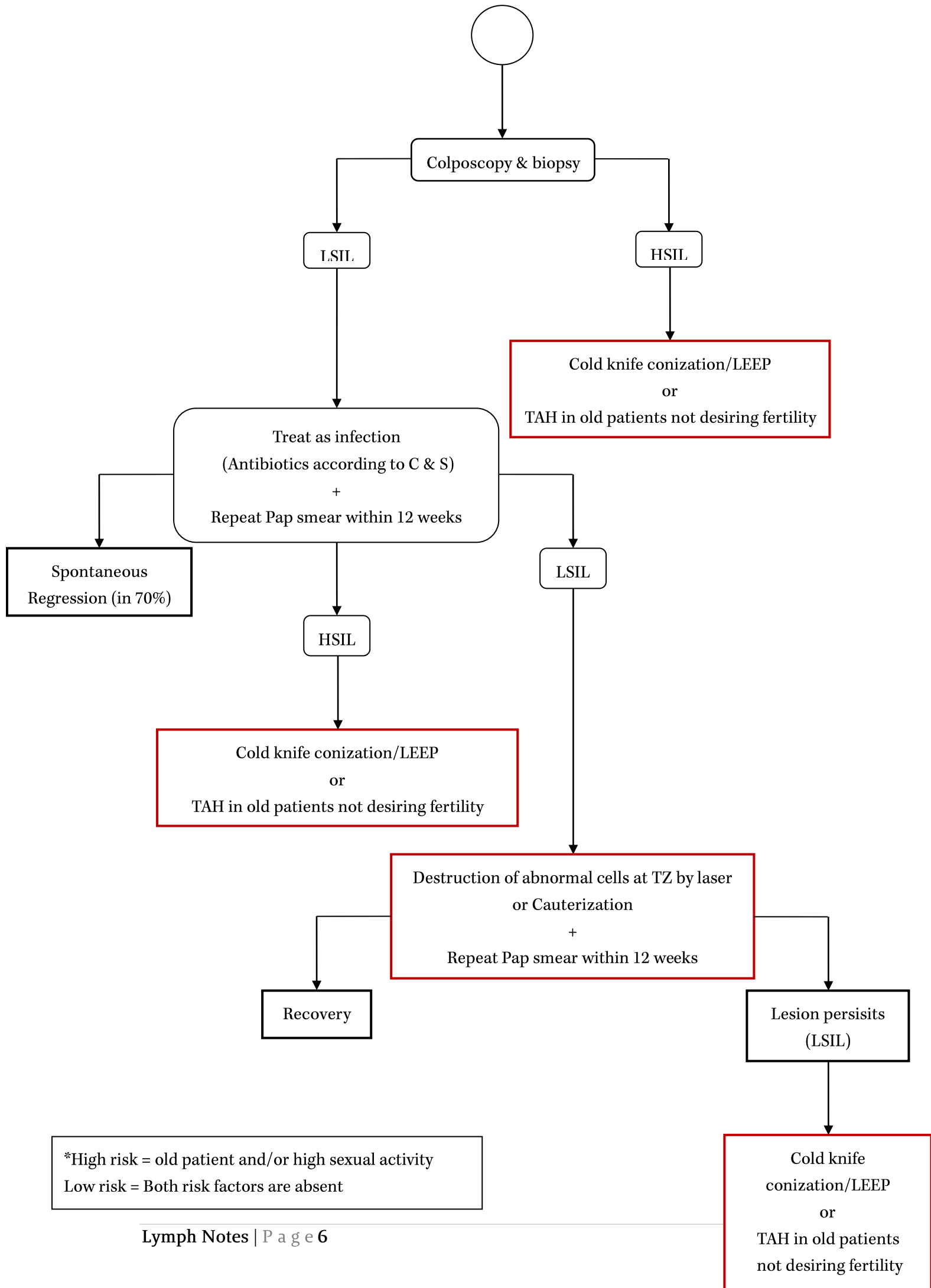
+ ve

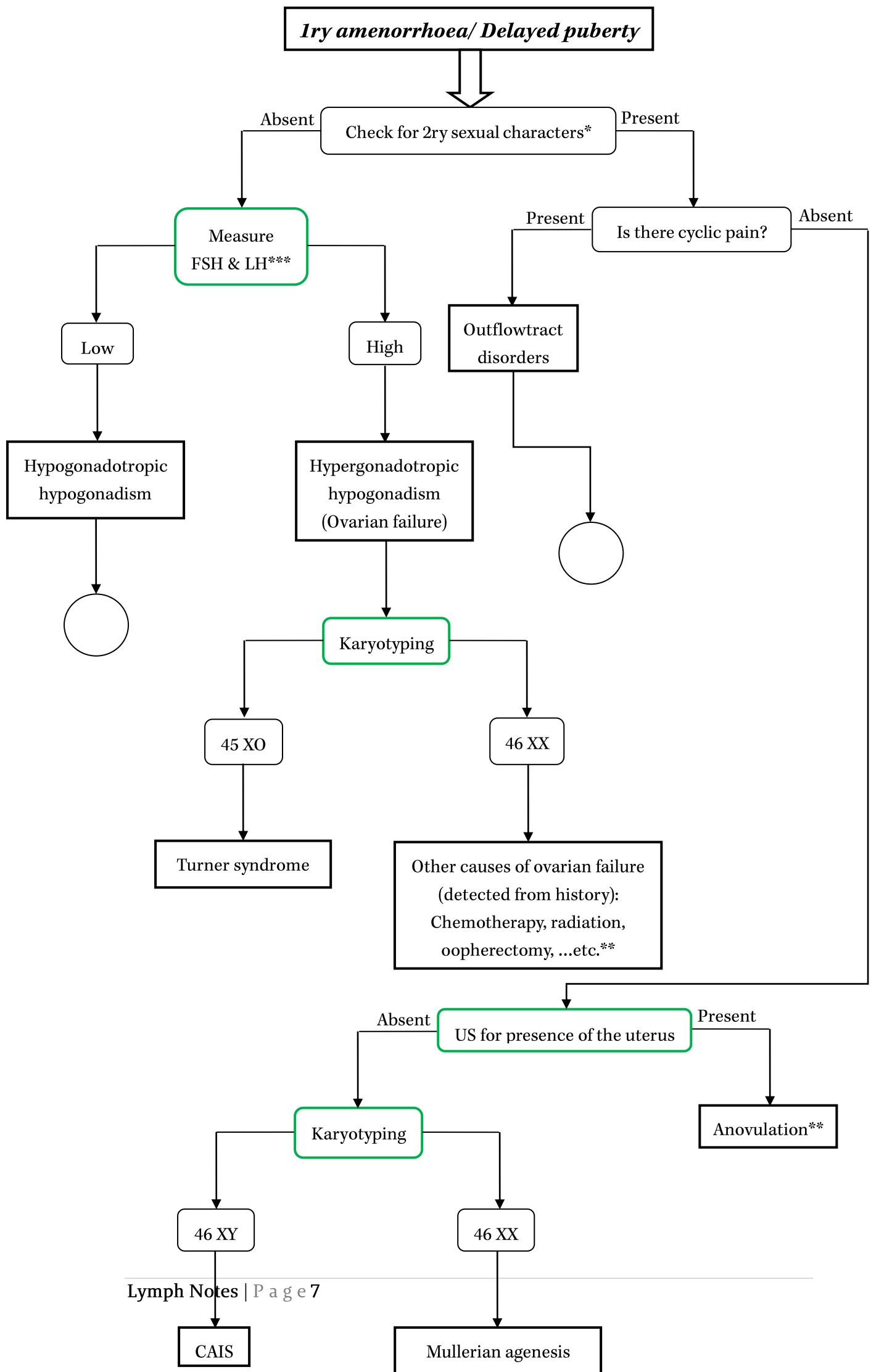
- ve

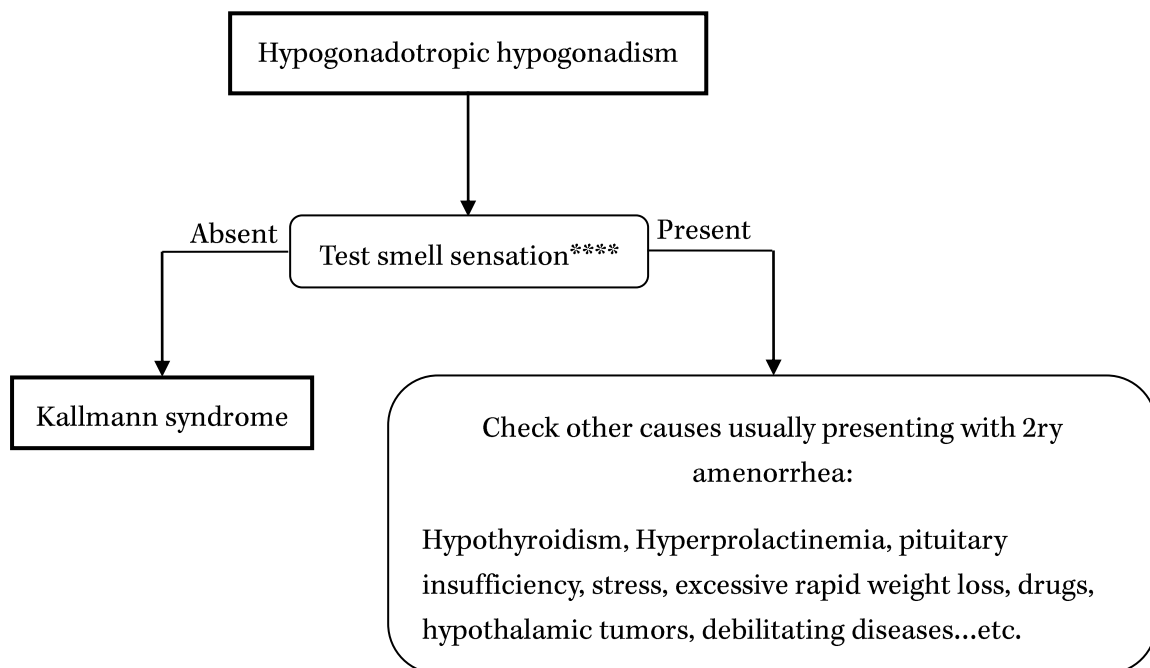
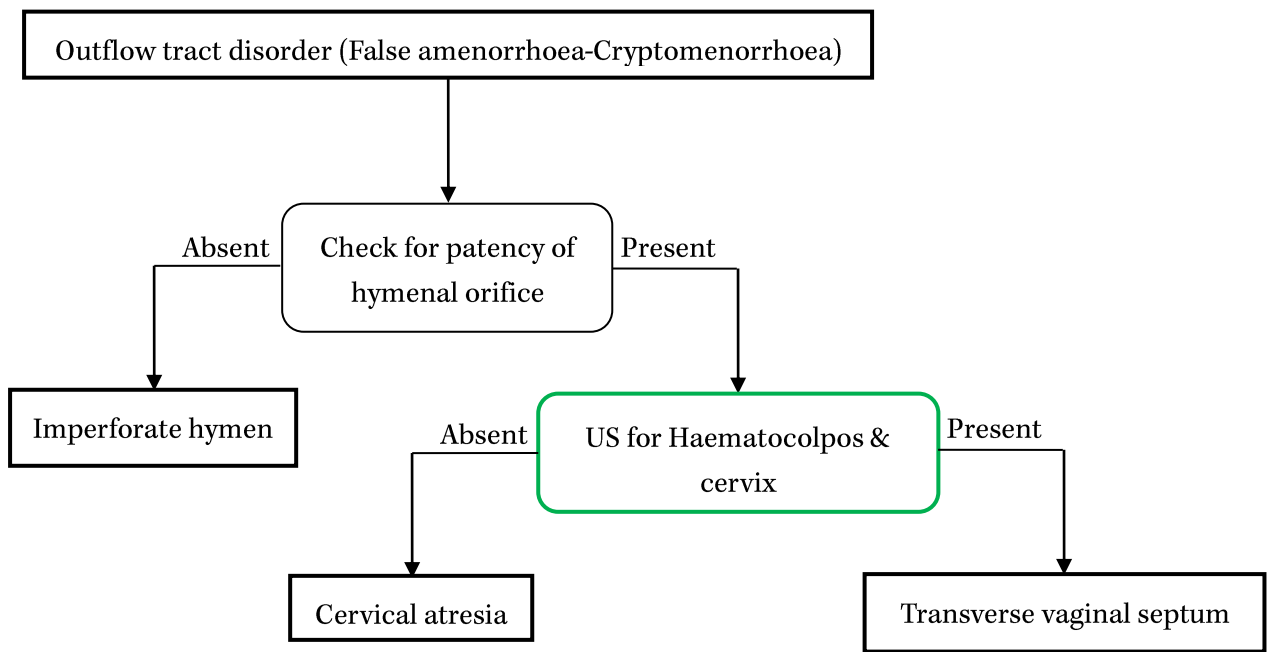
Colposcopy & biopsy

LSIL management









*The sparse axillary & pubic hair with the presence of all other 2ry sexual characters = CAIS

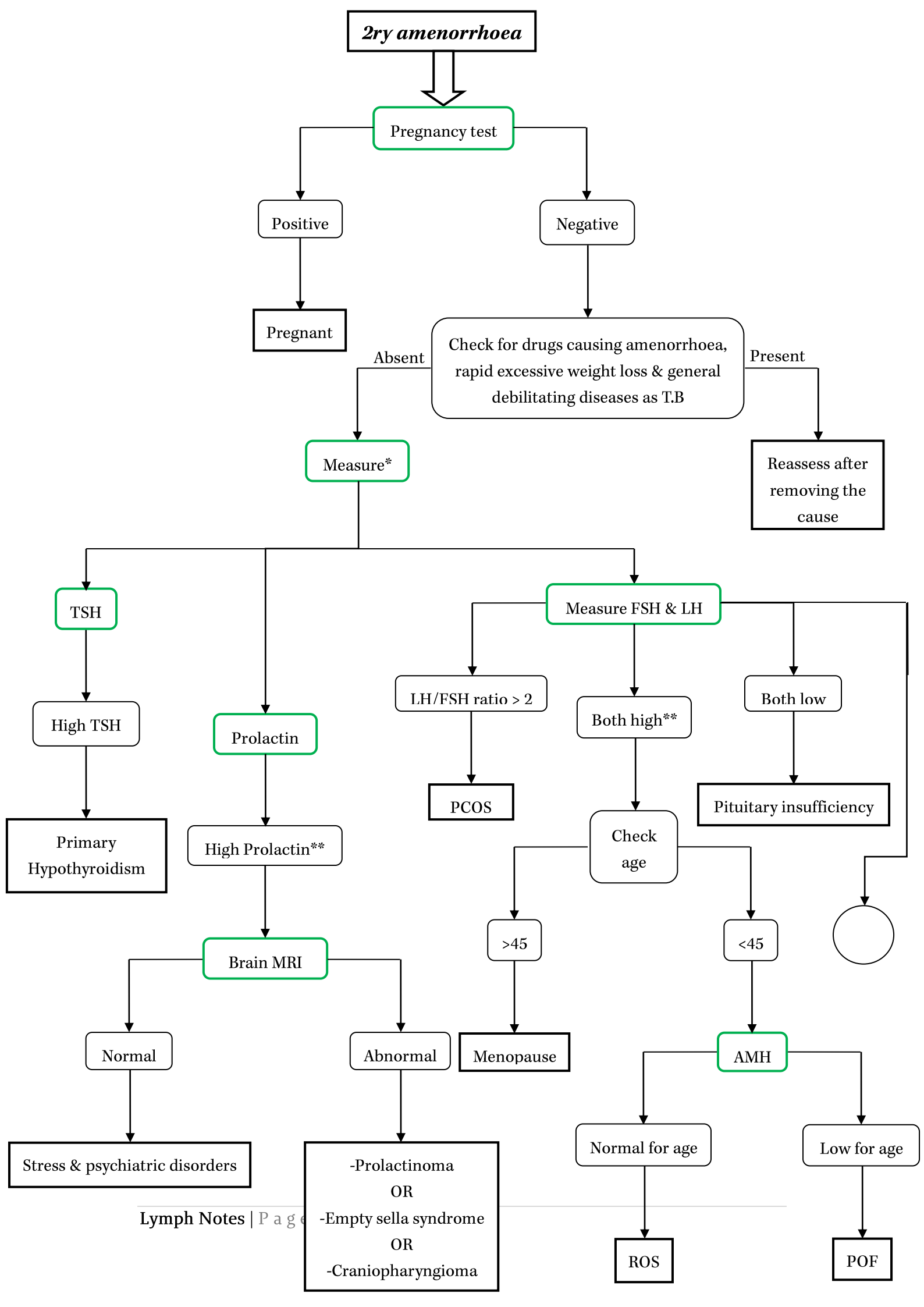
**Anovulation & other causes of ovarian failure usually present with 2ry and not 1ry amenorrhoea e.g. PCOS, POF, ROS...etc.

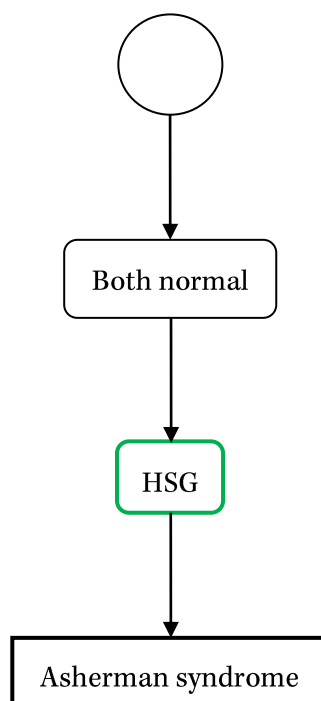
***High FSH = FSH > 20 mIU/ml

Low FSH = FSH < 5 mIU/ml

****You must exclude other causes of anosmia as common cold, polyp, fractured cribriform plate, neuritis, tumor compressing olfactory bulb.

2ry amenorrhoea





*Diagnosis is done from Lt to Rt (don't proceed to the next (Rt) section except if the preceding (Lt) one is normal)

i.e. A patient with hypothyroidism will have hyperprolactinemia so treat hypothyroidism first before proceeding to hyperprolactinemia assessment.

**Prolactin > 100 ng/ml suggests prolactinoma

Each condition may present with a characteristic clinical feature:

Hyperprolactinemia → Galactorrhoea

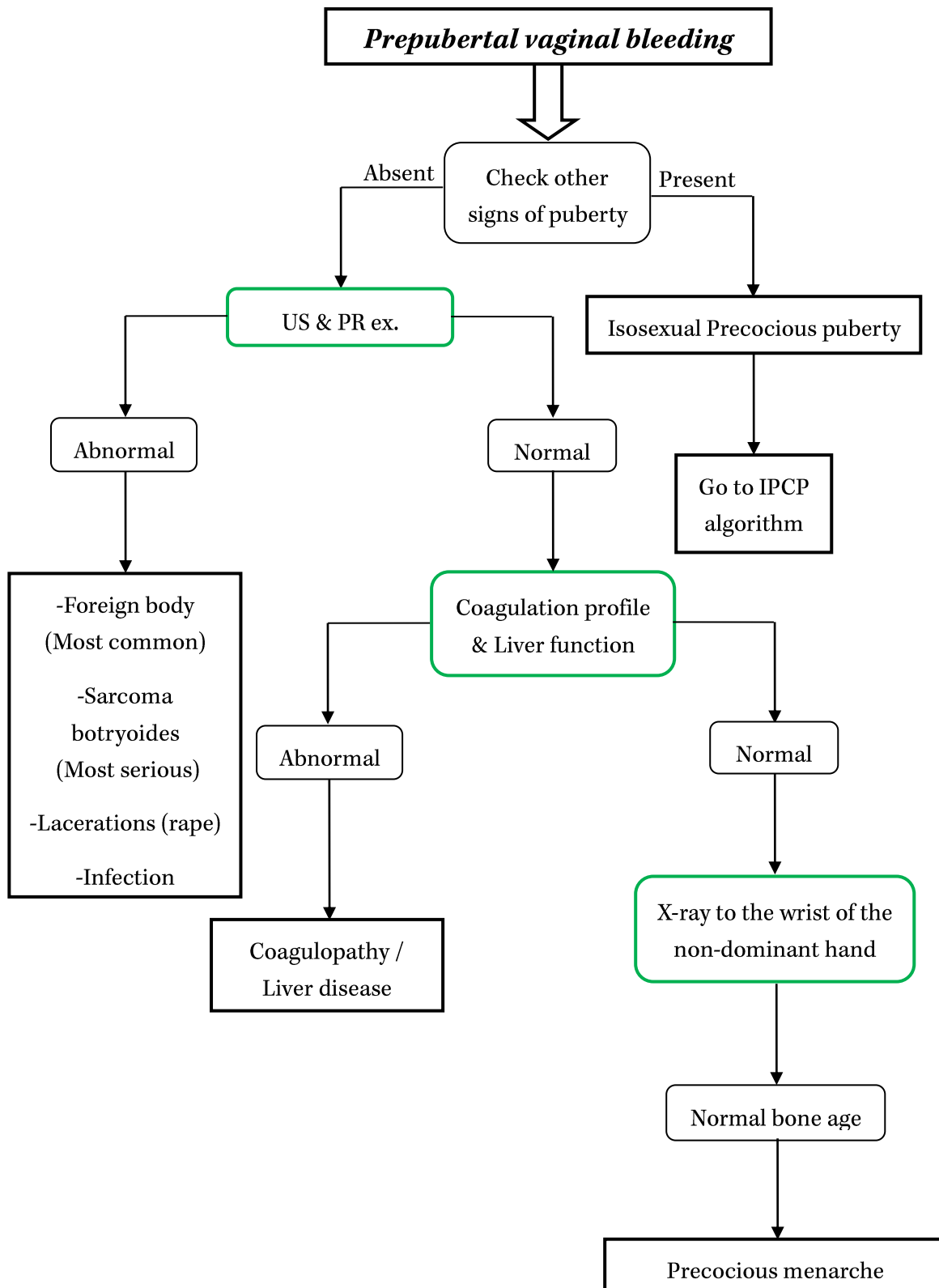
PCOS → Hirsutism + Obesity + Infertility

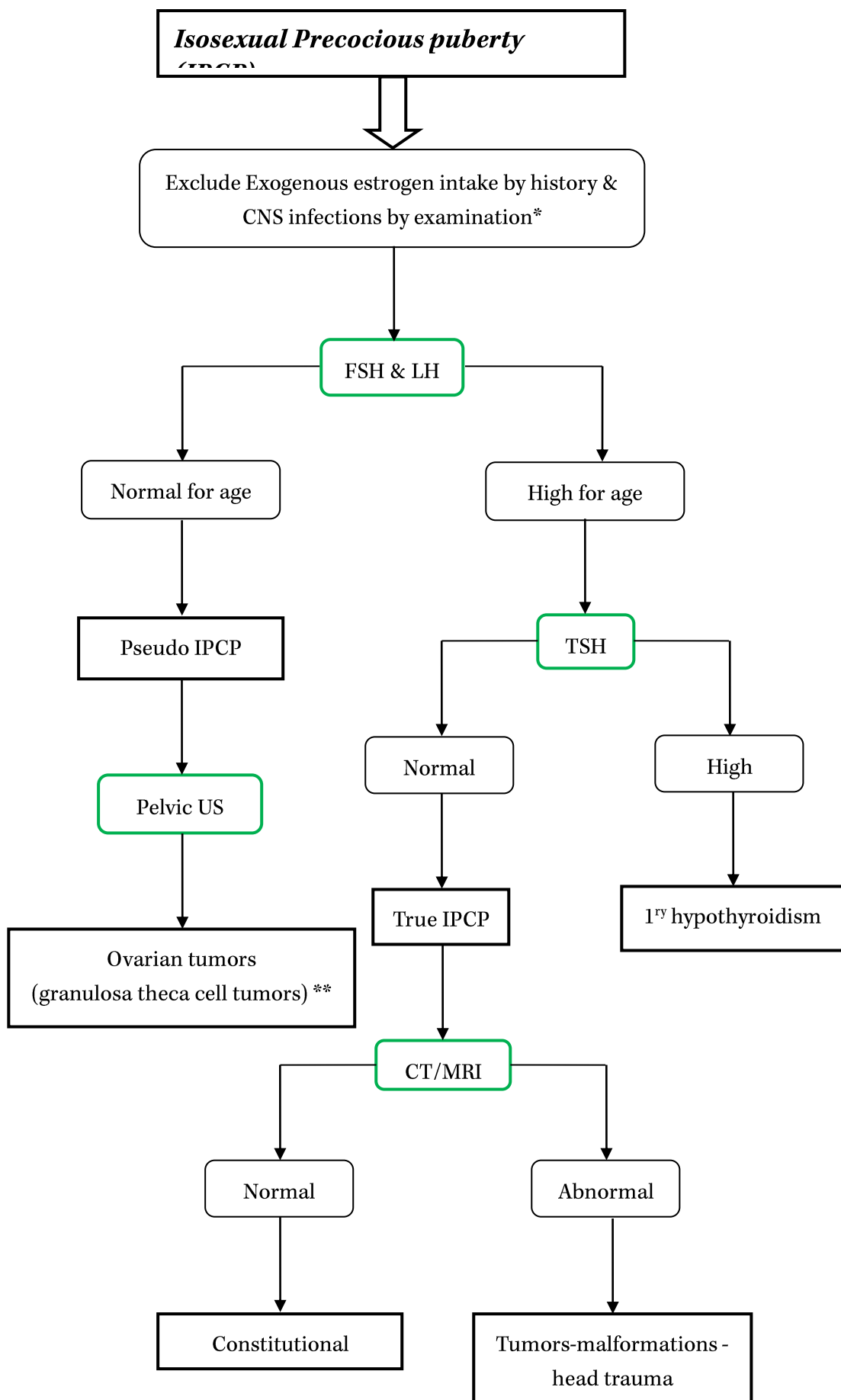
Asherman syndrome → History of T.B endometritis or D&C

Sheehan's syndrome (a cause of pituitary insufficiency) → Severe Postpartum He

Prolactinoma or empty sella syndrome → Symptoms of increased ICT as blurred vision, headache,...etc.

Menopause → Hot flushes





*If CNS infection is suspected clinically, CSF sample should be withdrawn.

**Other estrogen secreting tumors are common in old age not prepubertal as Brenner tumor & thecoma.

N.B.

Heterosexual is similar after exclusion of exogenous androgen intake, Pelvic US done for Ovarian tumors & measuring 17-hydroxyprogesterone for CAH.

Gynecological AUB in childbearing period

Pelvic US**

Normal anatomy

-Coagulation profile & CBC
-Thyroid function tests
-Liver function tests

Systemic cause*:
-Bleeding tendency
(e.g. ITP)
-Thyroid disease
-Liver disease

FSH & LH

FSH: LH

>2

PCOS (DUB)

Organic lesion

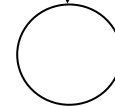
Myoma-Polyps-
adenomyosis

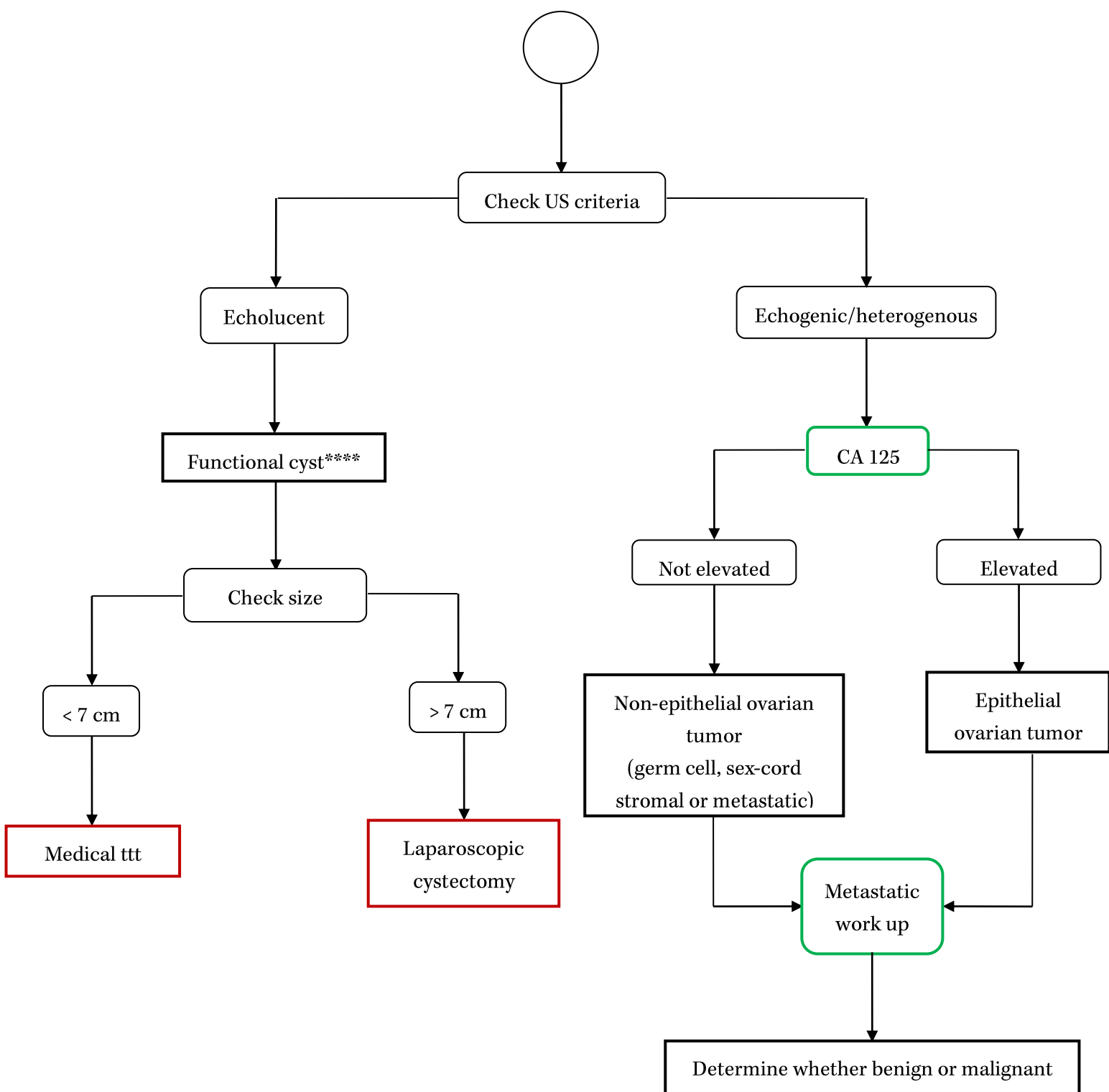
Confirm SMM &
polyps by office
hysteroscopy

↑ Endometrial
thickness

Endometrial biopsy***

Ovarian mass





*Systemic causes most probably will be associated with bleeding from other body orifices.

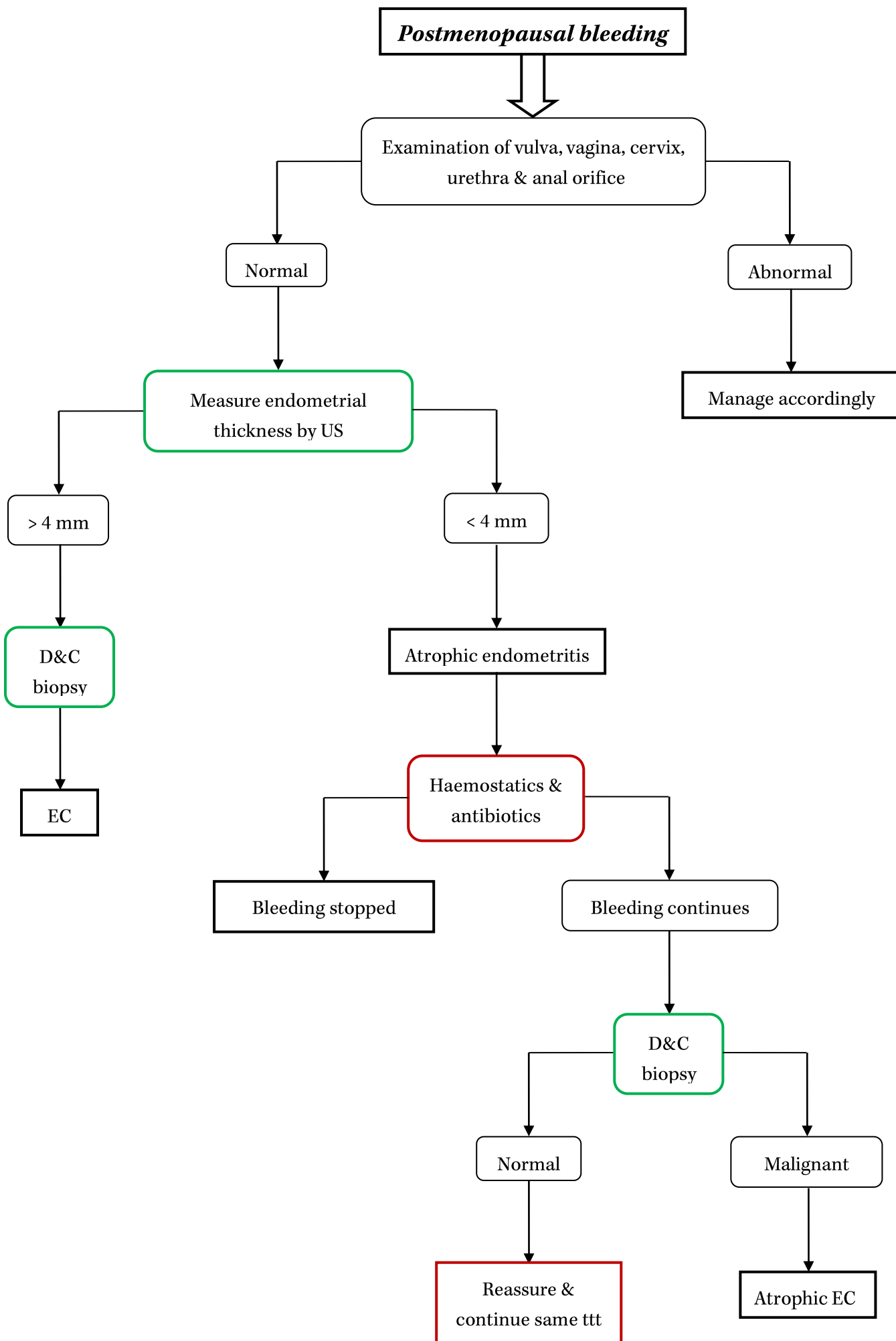
**Although DUB is the most common cause of AUB (60%), it is a diagnosis of exclusion + it may be associated with EH, so Pelvic US is done before FSH & LH.

***Endometrial biopsy is done by D&C in cases suspicious for EC (as those with family history of EC), If the patient is unfit for anesthesia & surgery, it is done by Pipelle without cervical dilatation as an office procedure.

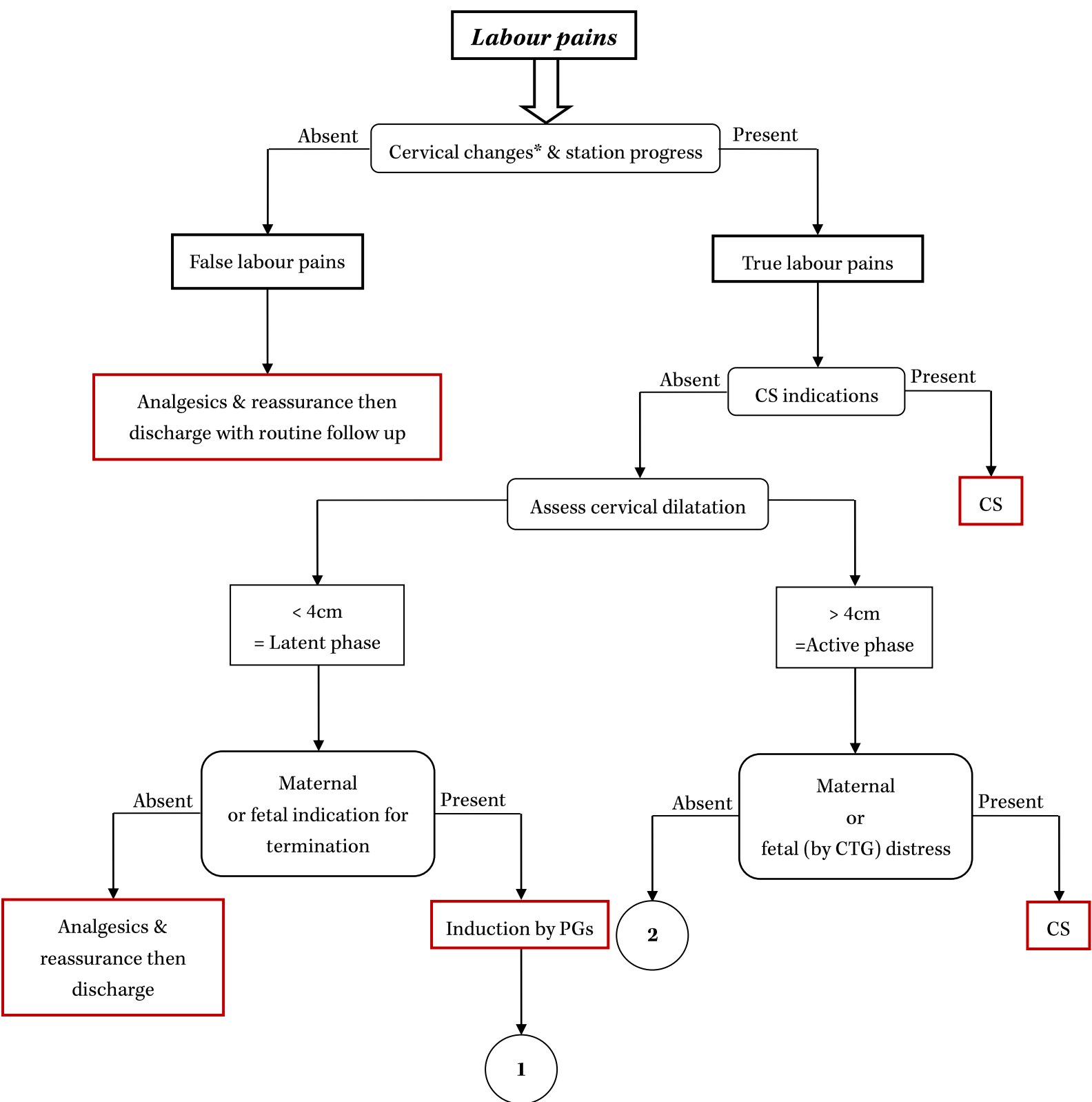
**** Follicular & CL cysts are associated with menstrual irregularities due to persistent estrogen (in follicular cyst)/PRG (in CL cyst) production.

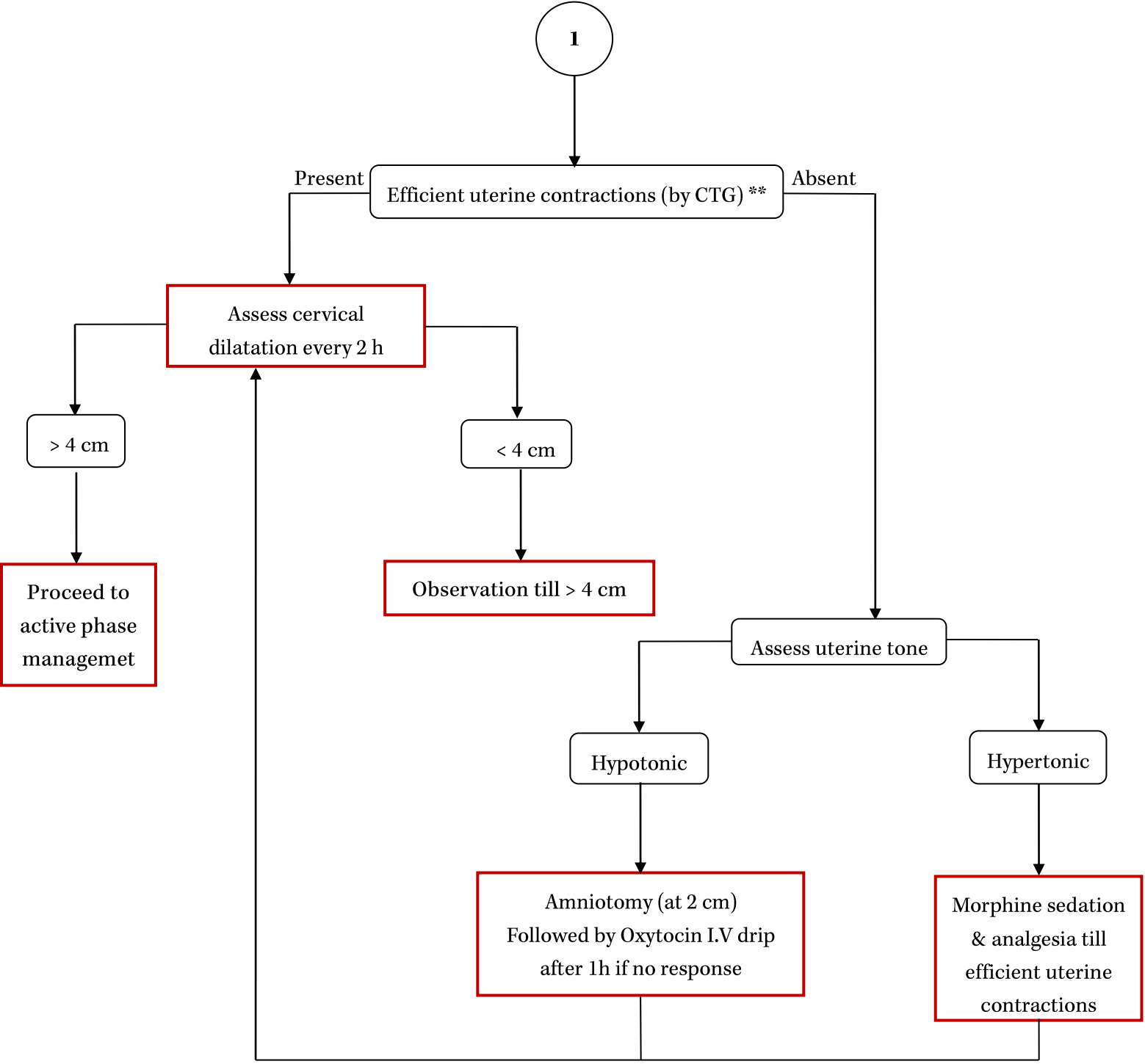
N.B.:

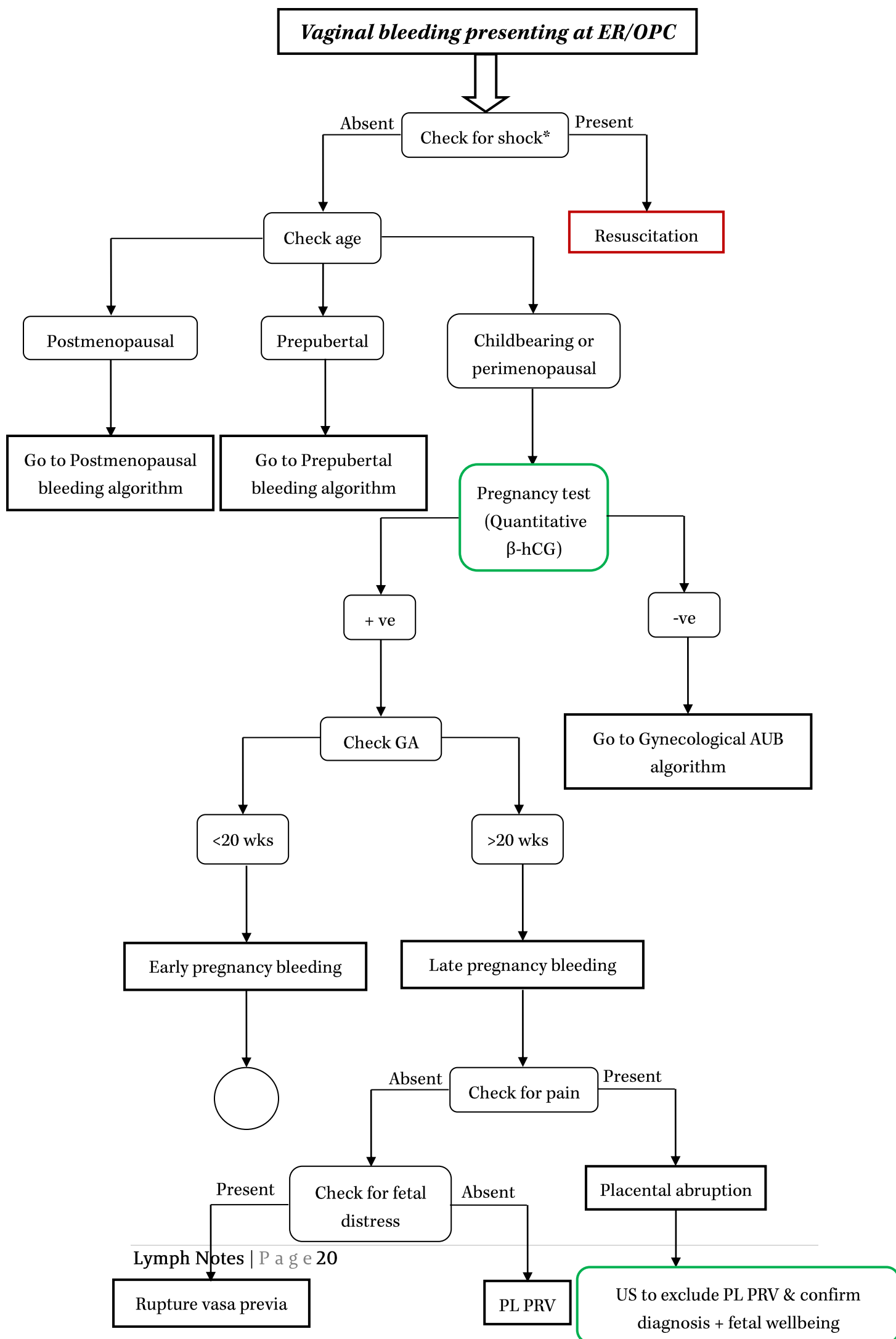
-Pap smear should be done if there is contact bleeding

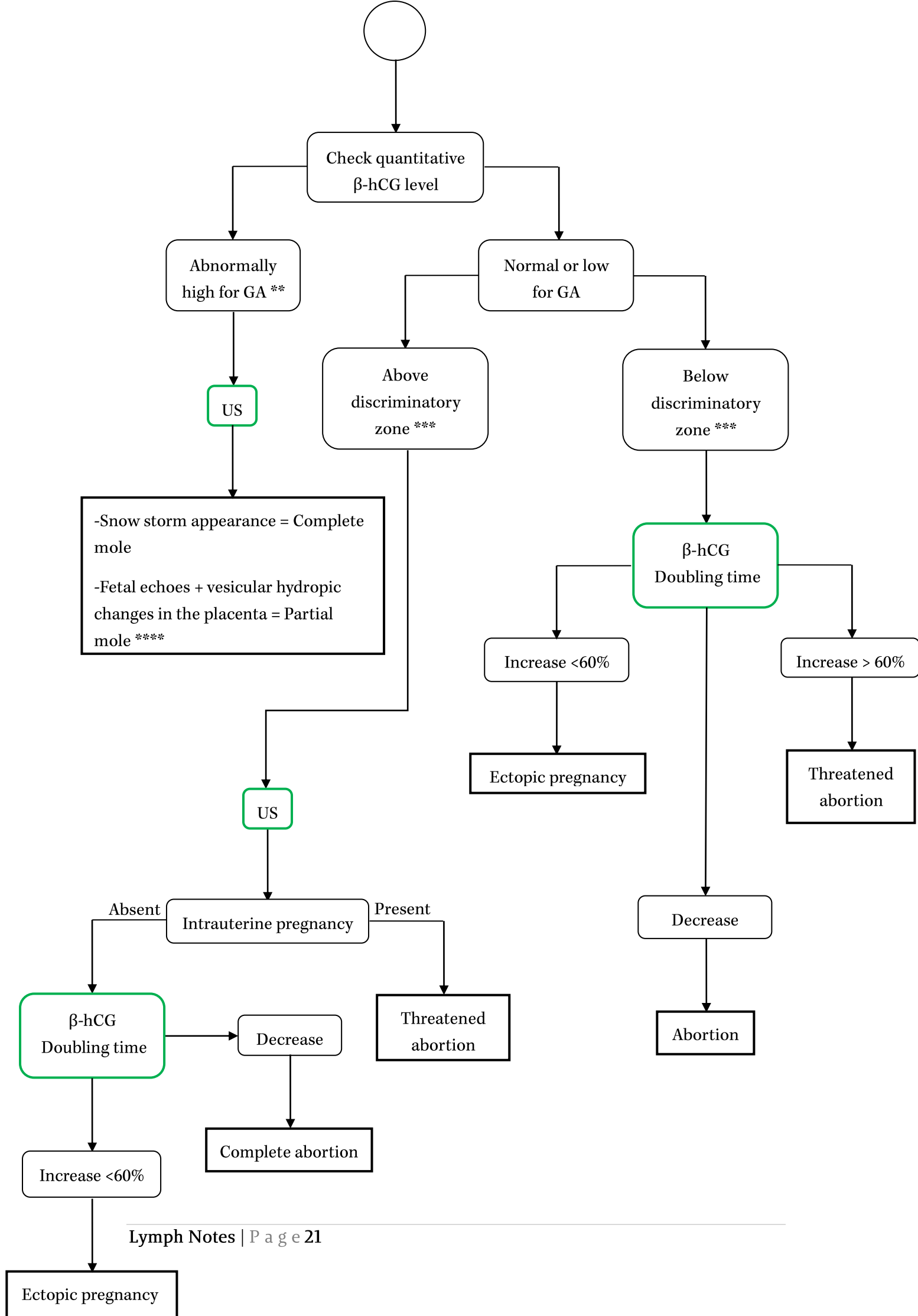


OBS. ALGORITHMS









* Check

-Consciousness → Disturbed

-B.P → Low

-Urine output → Oliguria or anuria

** β -hCG > 100,000 mIU/ml in the first 8 wks

*** Discriminatory zone = 6500 mIU/ml by TAS & 1500 mIU/ml by TVS

**** OR Non-identical twins, one normal & the other V. mole

Female presenting with acute abdominal/pelvic pain

Exclude common non-gynecological causes of acute lower abd. pain as appendicitis & upper abd. pain as cholecystitis & pancreatitis

Pregnancy test
(Quantitative β -hCG)

+ ve

Check

< 20 wks

Disturbed ectopic pregnancy

>20 wks

Placental abruption

- ve

US

Fibroid
(torsion/incarceration/
rupture of surface vein
of, pedunculated SSM)

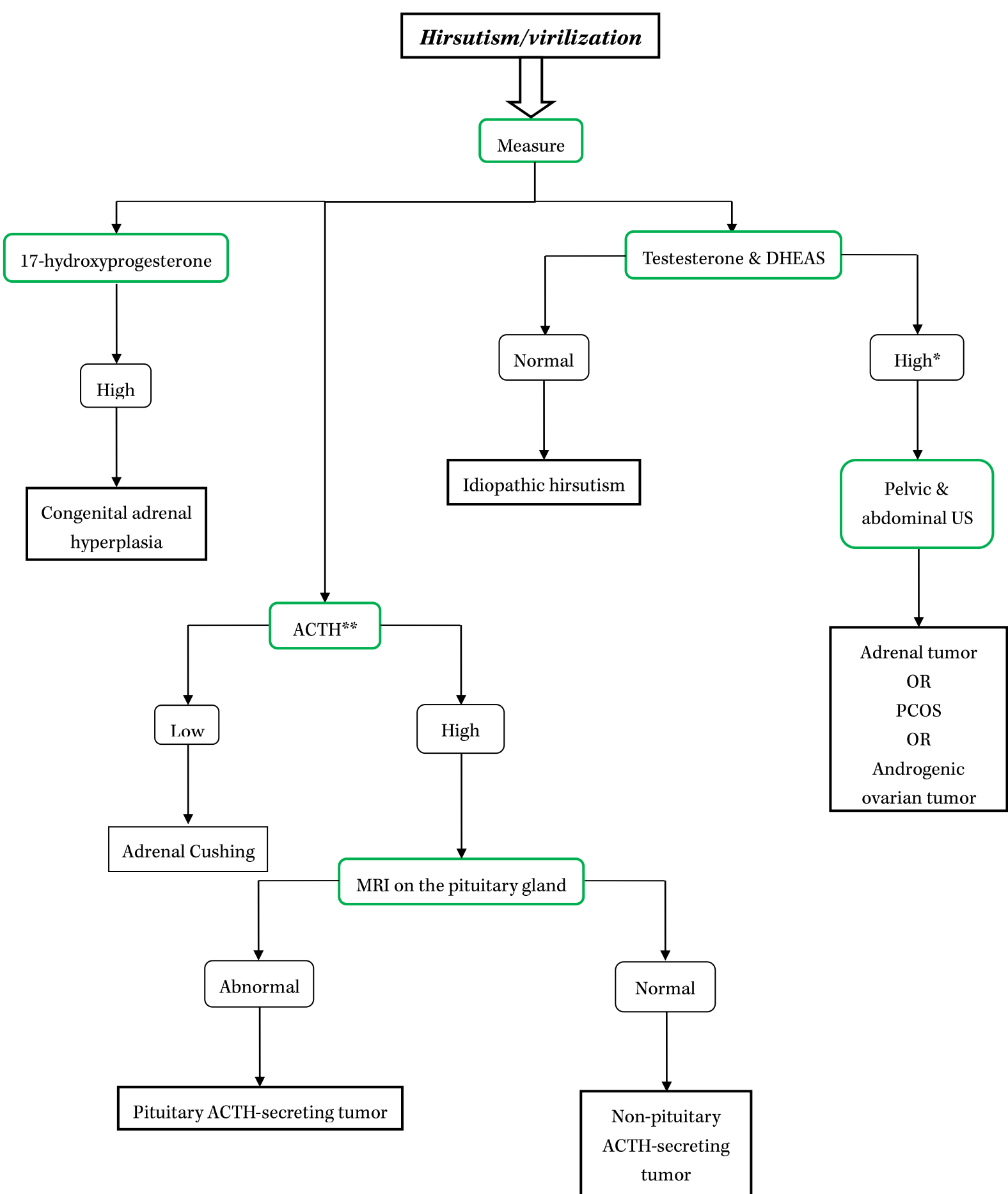
Complicated
ovarian cysts

Hydrosalpinx/Pyosalpinx

↑ TLC, ESR & CRP

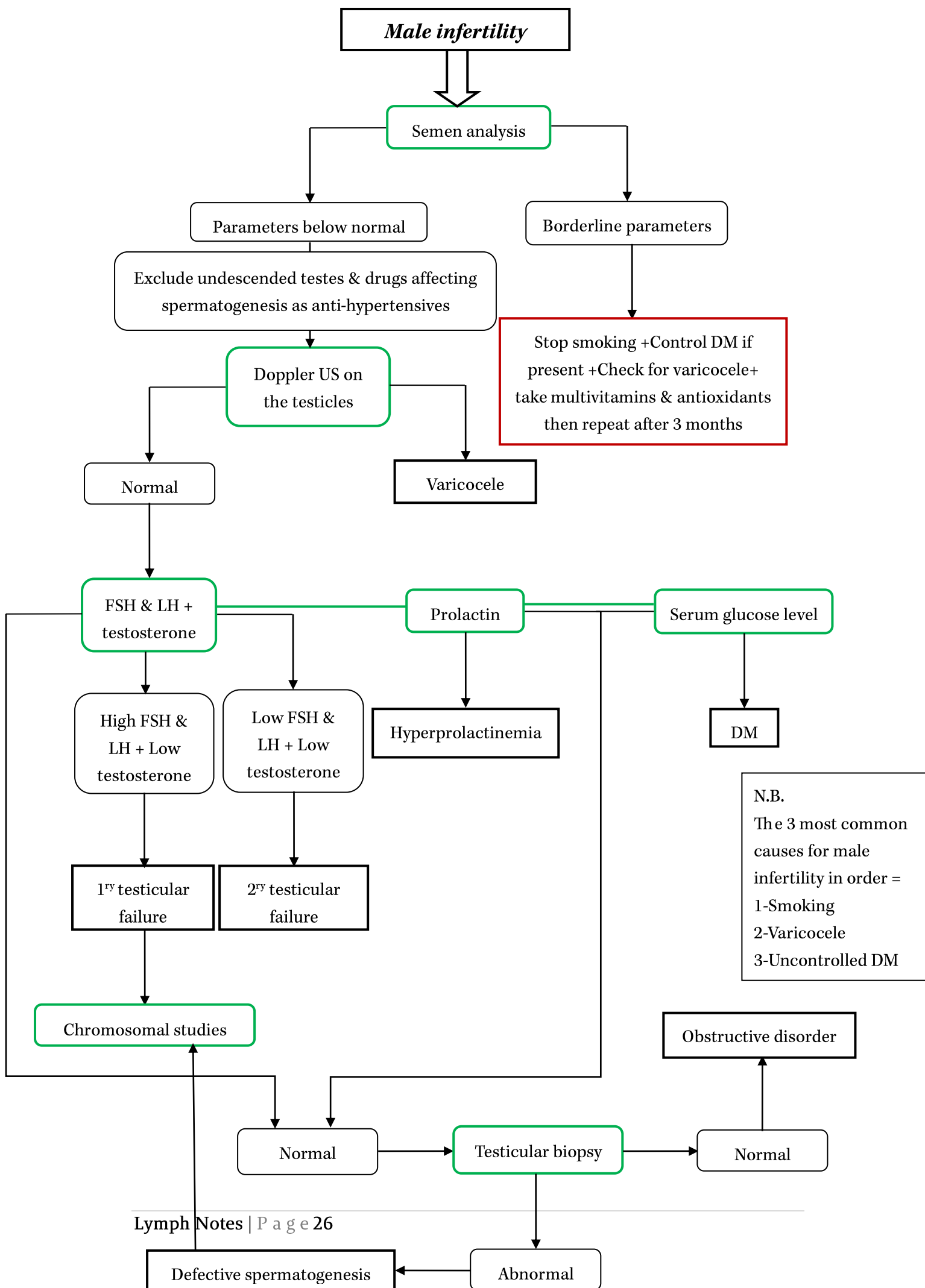
Acute PID

OTHER ALGORITHMS



*DHEAS levels > 9000 ng/ml suggests adrenal tumor

***Done if Cushing syndrome is clinically suspected (hirsutism + HTN)



Diagrams

PHYSIOLOGY

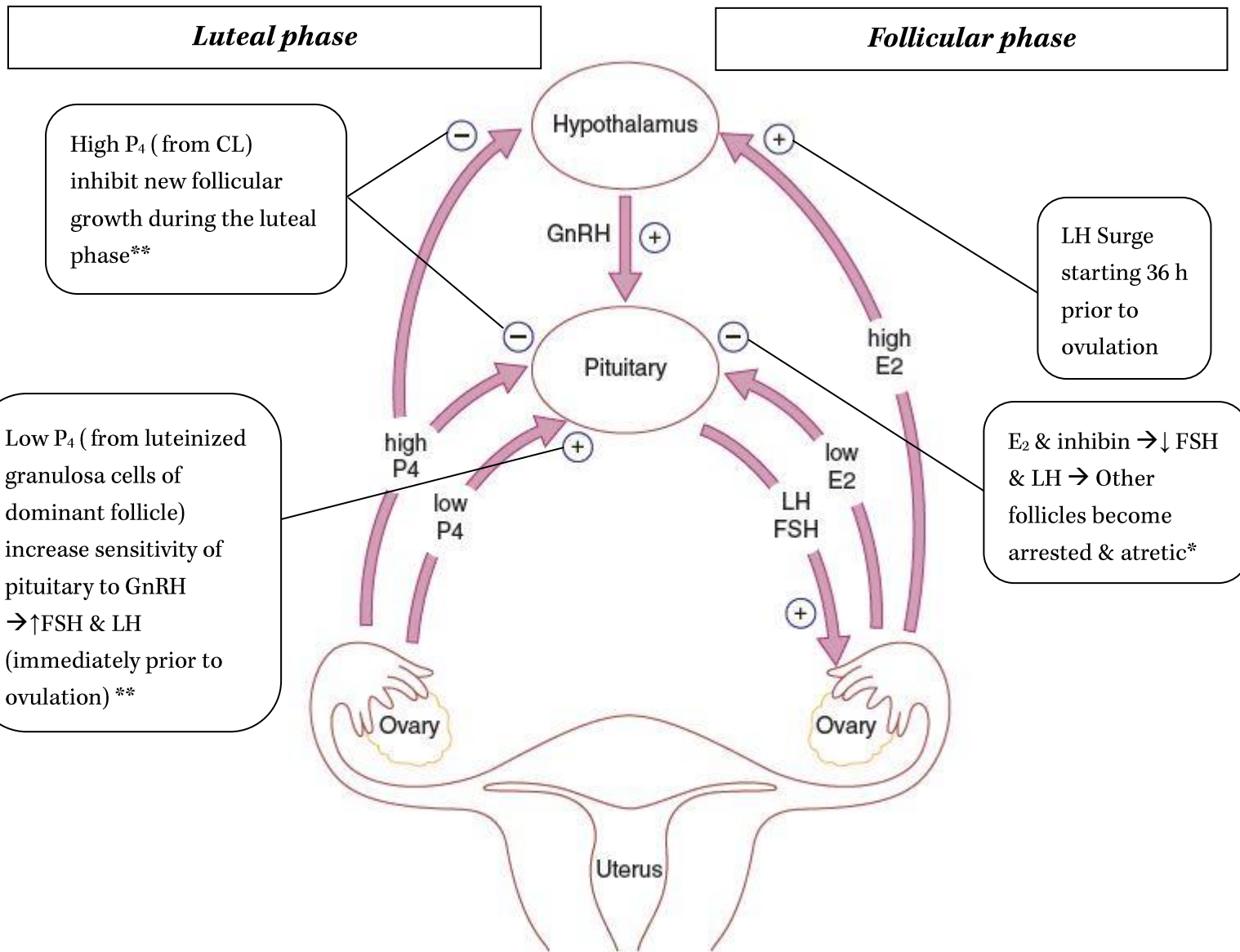
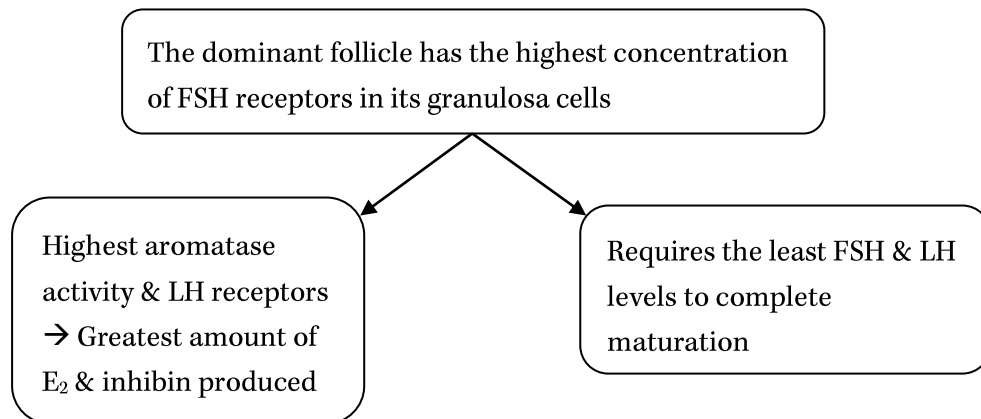


Figure 4.1 Hypothalamo-pituitary-ovarian axis.

*COCs artificially creates a constant serum oestrogen level in the negative feedback range.
 **It is known that progesterone can only have these effects on gonadotropic hormone release after priming by oestrogen.

Source: Gynaecology by Ten Teachers 19th edition



*LH surge is short half life due to:

- 1-Consumption of pituitary stores
- 2-Decrease of E₂ levels after ovulation

*Goal: Decrease P₄ production to avoid atrophy of the endometrium

	Estrogen	Progesterone
Decrease	Anovulation & Anemorrhea	CL Insufficiency (LPD)
Increase	Hyperestrogenemia	-

Bold = More common

Disrupting the HPO axis decreases the 2 hormones affecting the 2 organs:

- No follicle maturation/ LH surge → No ovulation
- No cyclic endometrial proliferation & shedding → Amenorrhea

Uterus affected → Amenorrhea

Physiological:

- Before Puberty
- Pregnancy & lactation

- Kallmann's syndrome
- Stress
- Pseudocyesis
- Anorexia nervosa
- Rapid excessive weight loss
- Stressful exercise
- Drugs**
- Hypothalamic Tumors

Hypothalamus

No
Pulsatile
GnRH

Pituitary

Physiological: Pregnancy & lactation

- Hyperprolactinemia***
- Empty Sella syndrome
- Pituitary insufficiency
(As Sheehan's syndrome-Simmond's disease-Others)

No FSH
& LH

Ovary

Physiological: Menopause

- Turner Syndrome**
- POF
- PCOS**
- Hyperandrogenism***

No E₂ &
P₄

Uterus

- Mullerian agenesis**
- CAIS
- Asherman's syndrome

No
Endometrium

- Imperforate hymen**
- Transverse vaginal septum
- Cervical atresia

Outflow tract
disorder

*See Hyperprolactinemia etiology diagram

**Drugs: Continuous GnRH agonists, Progestins, Combined E/P therapy, Androgenic drugs (Danazol), drugs that inhibit dopamine → ↑ Prolactin (See Hyperprolactinemia etiology diagram)

***Cushing syndrome → ↑ adrenal androgen production (hyperandrogenism) → Atresia of developing follicles & increase fibrous tissue of the ovarian cortex → Anovulation

Ovary affected → Anovulation

♀ **Infertility**

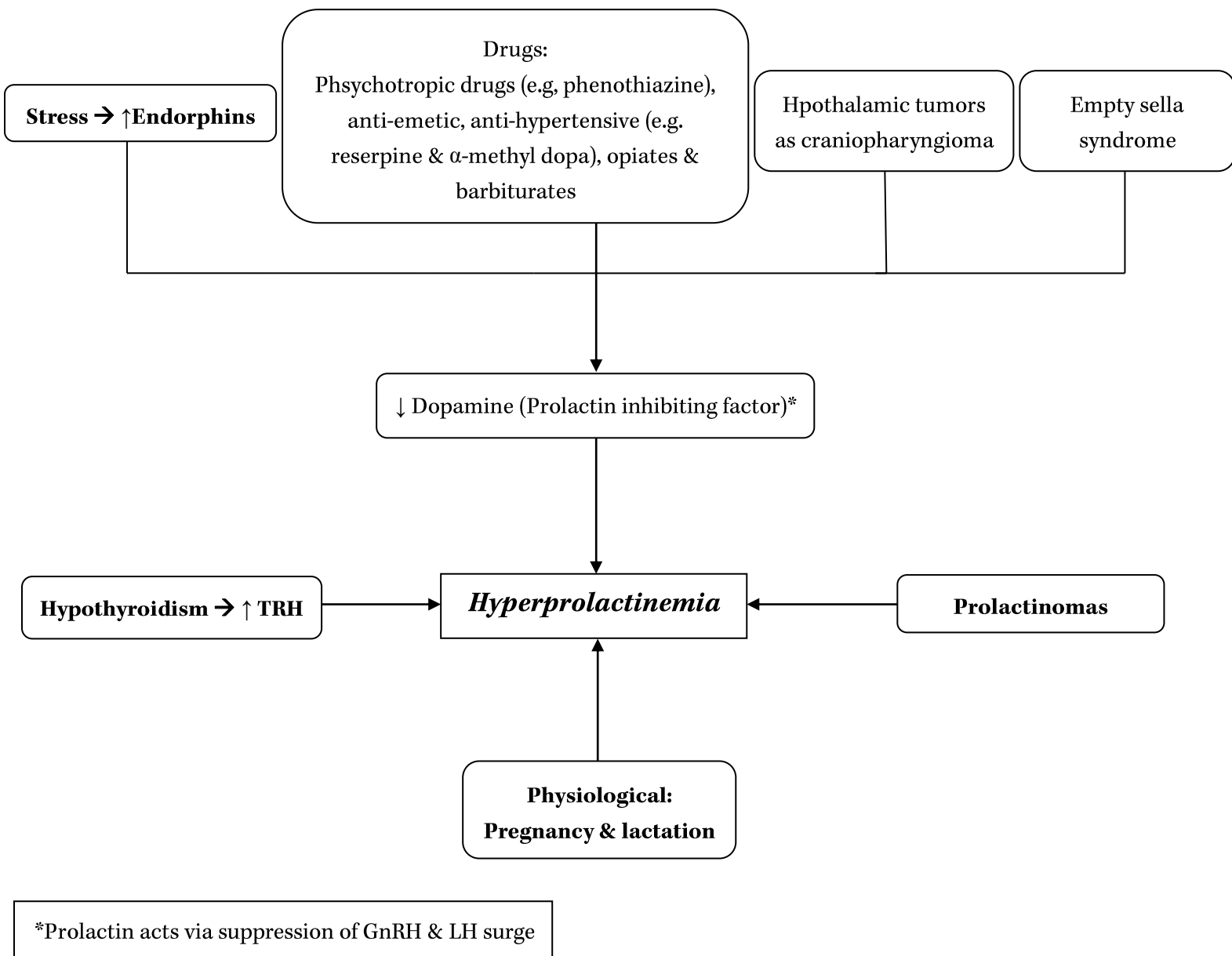
- LPD
- Tubal & peritoneal factors
- Uterine & endometrial factors
- Cervical factor

Note:

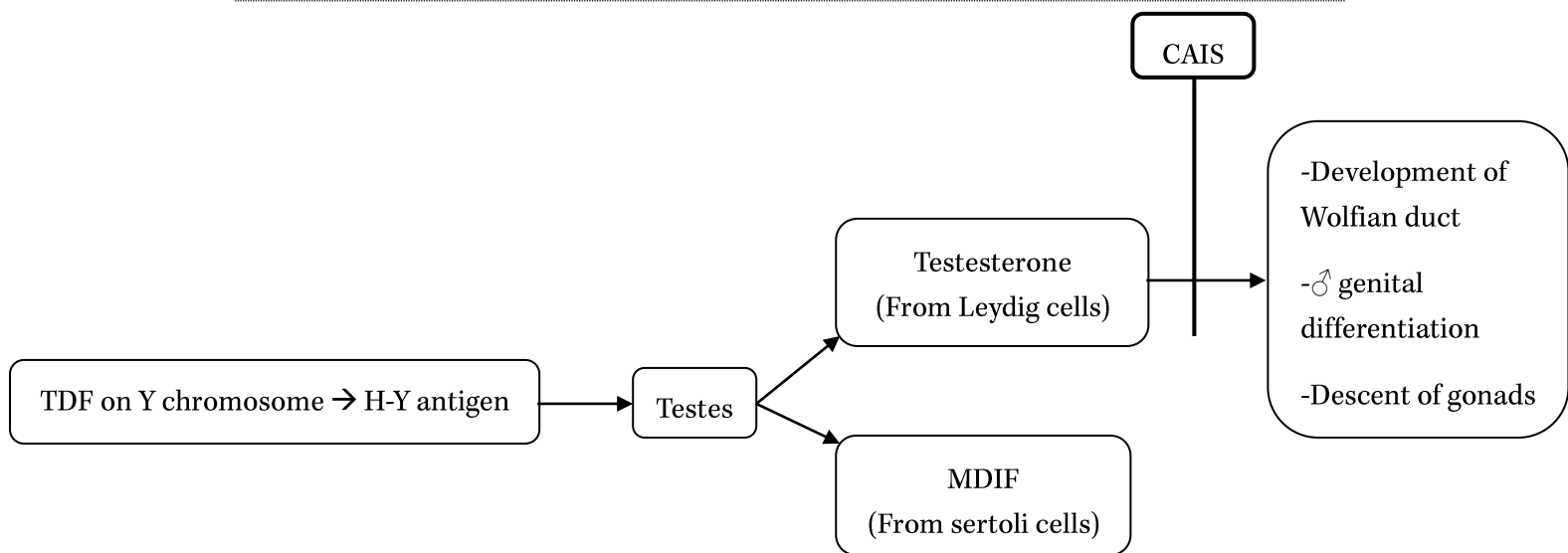
General debilitating diseases as TB cause amenorrhea by several mechanisms:

- Severe weight loss
- Ovarian T.B (30% affected)
- Asherman syndrome

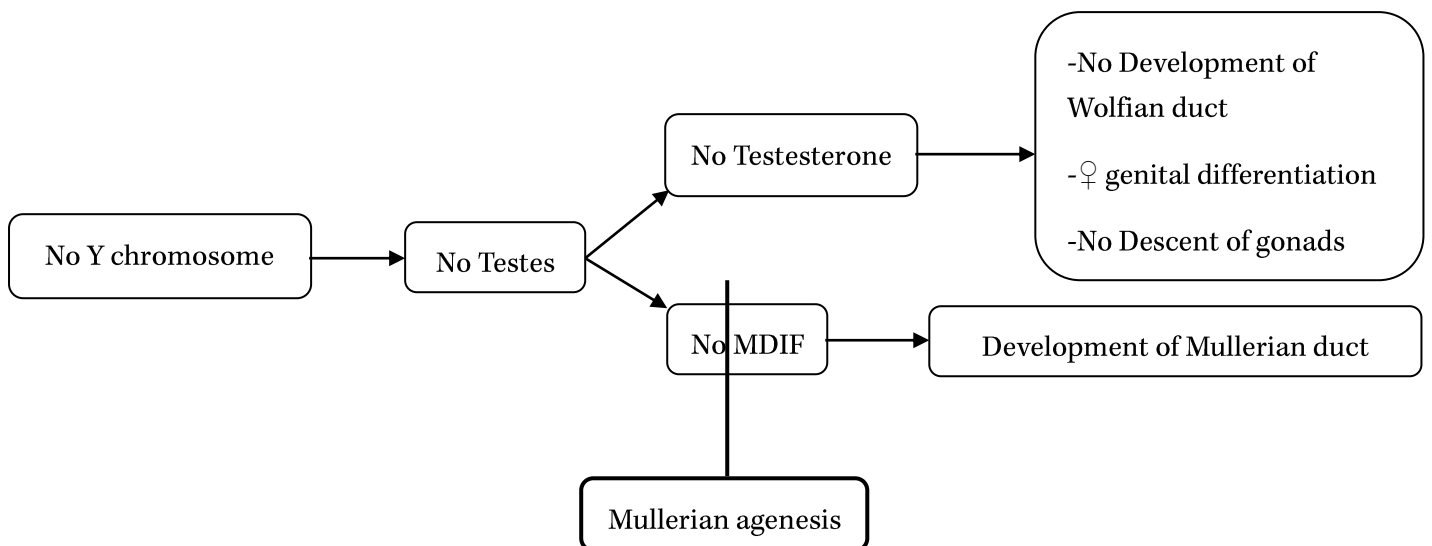
HYPERPROLACTINEMIA



COMPLETE ANDROGEN INSENSITIVITY SYNDROME (CAIS)



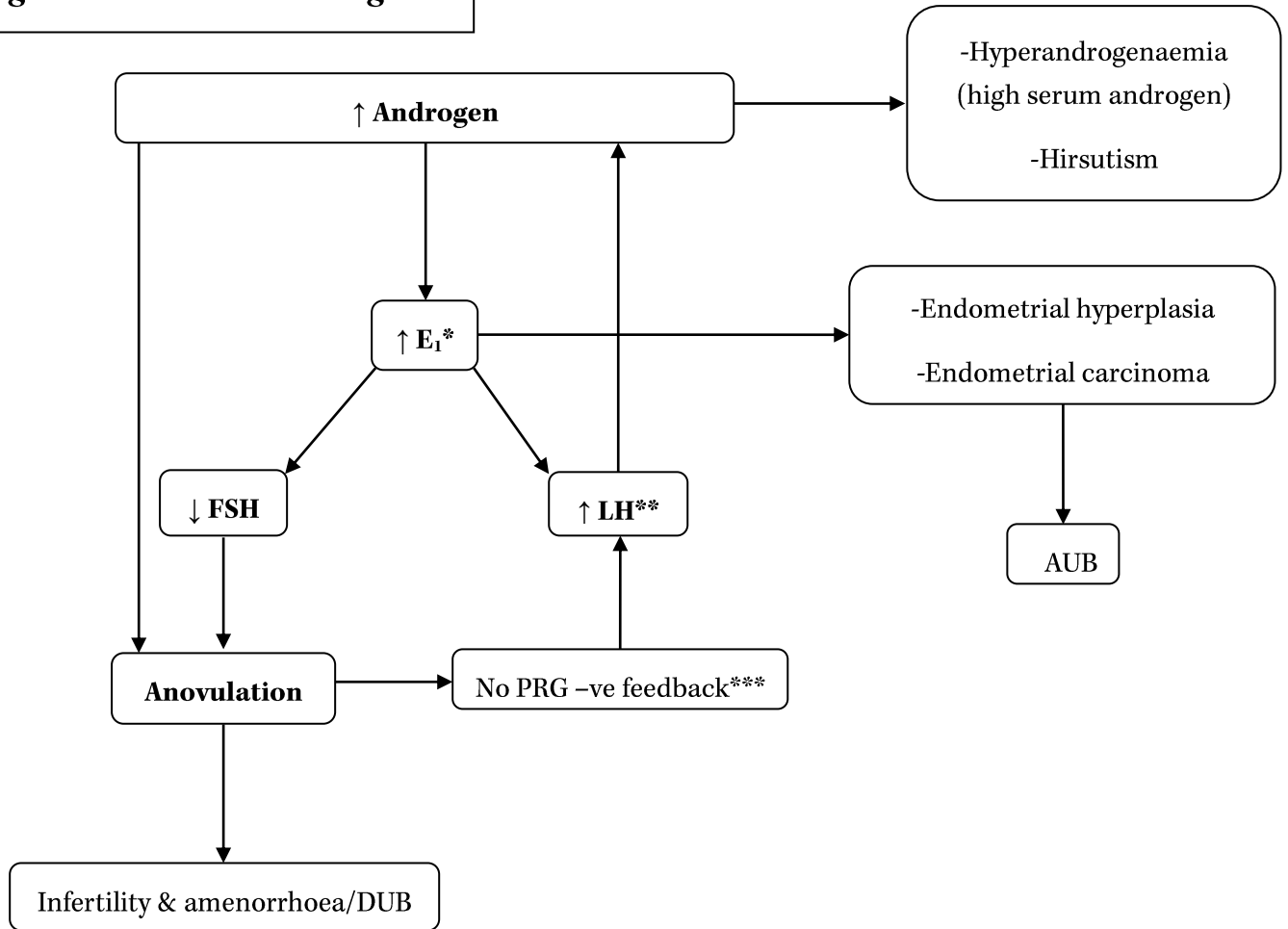
MULLERIAN AGENESIS



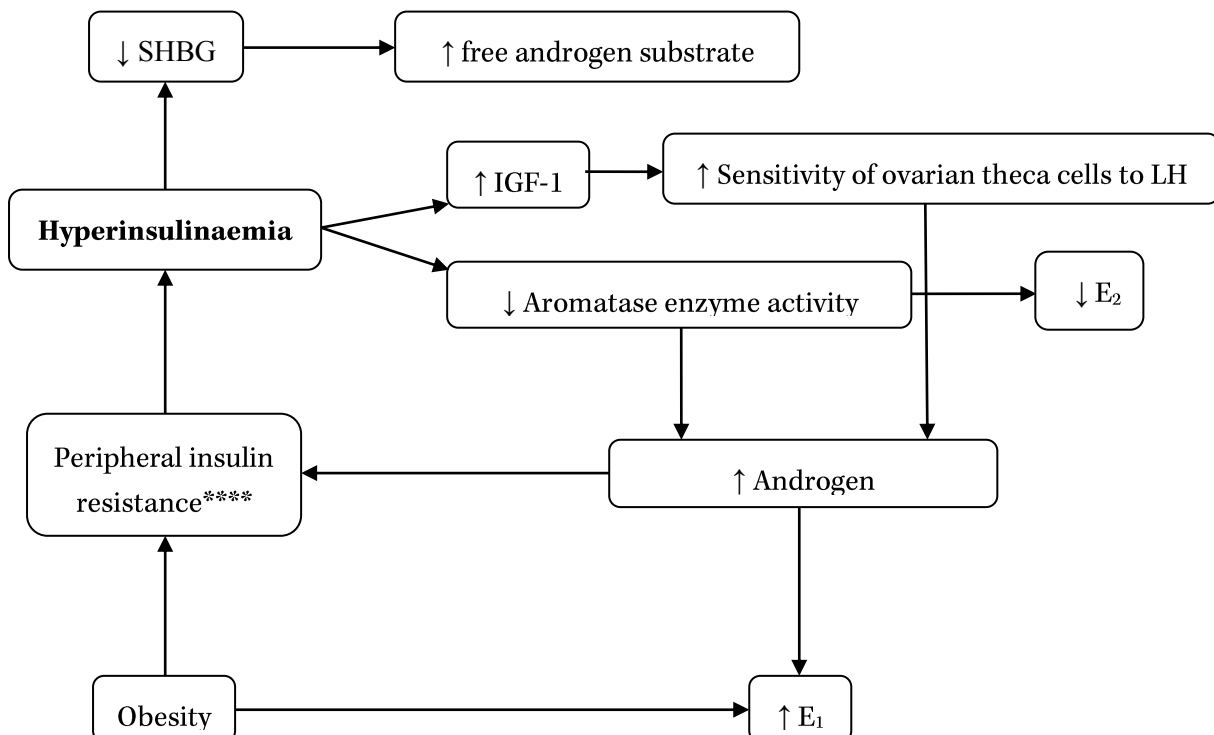
The following Diagram is too large to be grasped as a whole in one time so it is divided into 2 diagrams which are put together in a third one constructing the PCOS monster!!

PCOS

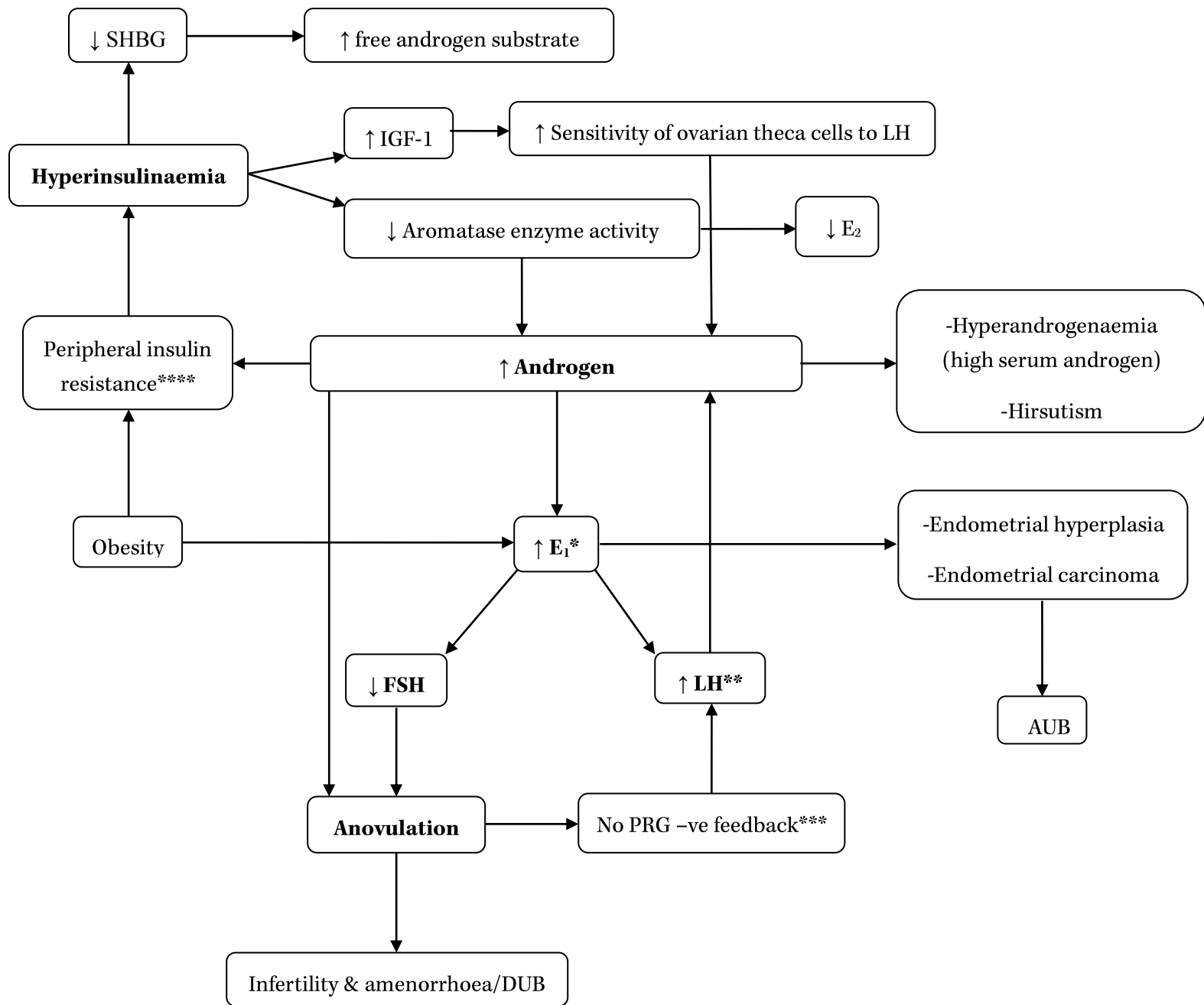
PCOS diagram 1: Hormonal changes



PCOS diagram 2: Hyperinsulinemia effects (Read from below upwards)



PCOS diagram 3: Full picture



*E₁ is produced by peripheral conversion of androgen in the fat cells by peripheral aromatase enzyme (Not the ovarian aromatase which activity is inhibited by LH & insulin)

**LH increase androgen by stimulating androgen secretion by theca cells & inhibiting ovarian aromatase enzyme responsible for conversion of ovarian androgen to oestrogen

***No ovulation → No CL formation → No Progesterone production

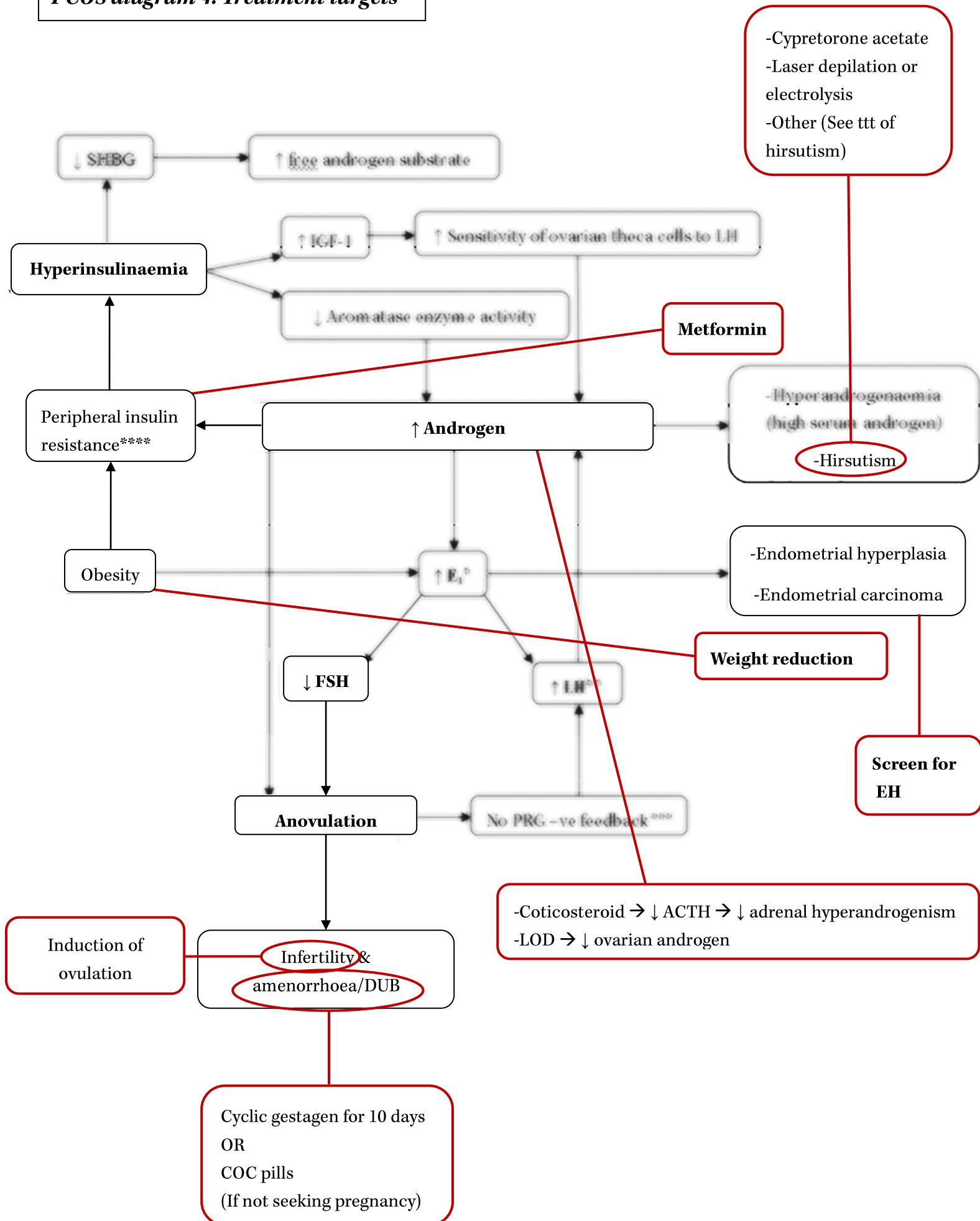
****The following complications may occur as a part of the metabolic syndrome associated with obesity or due to androgen induced peripheral insulin resistance:

- DM (Type II or gestational)
- Hyperlipidemia & CVS diseases

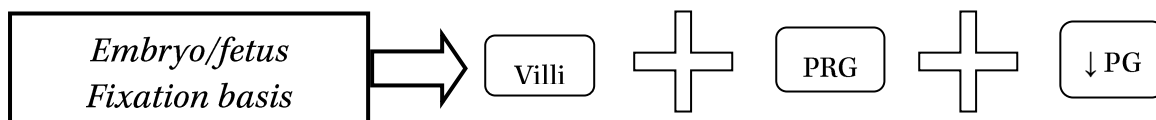
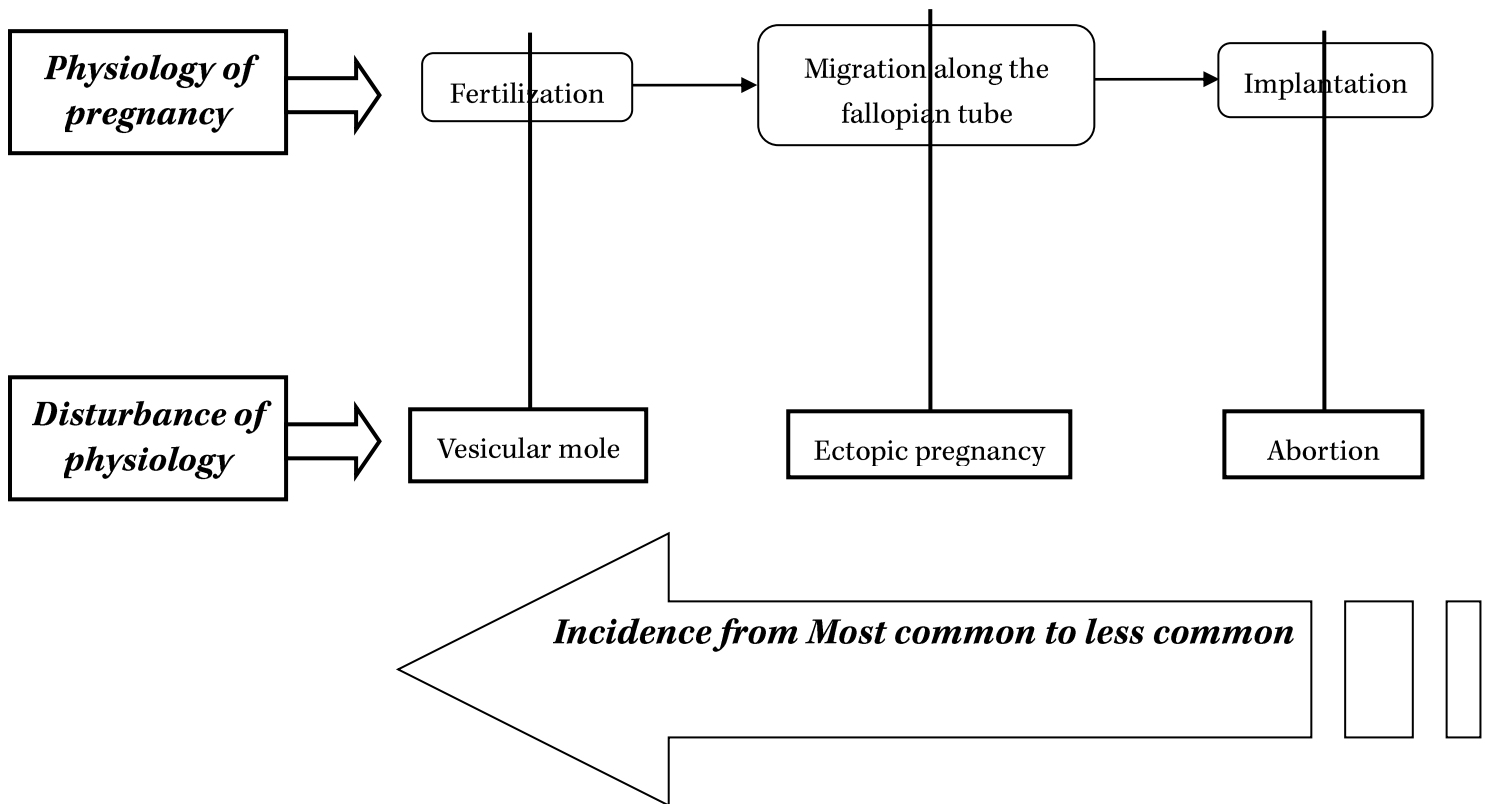
N.Bs.:

- FSH may be normal & not decreased.
- There are 2 causes for bleeding in PCOS: 1- Anovulation causing DUB

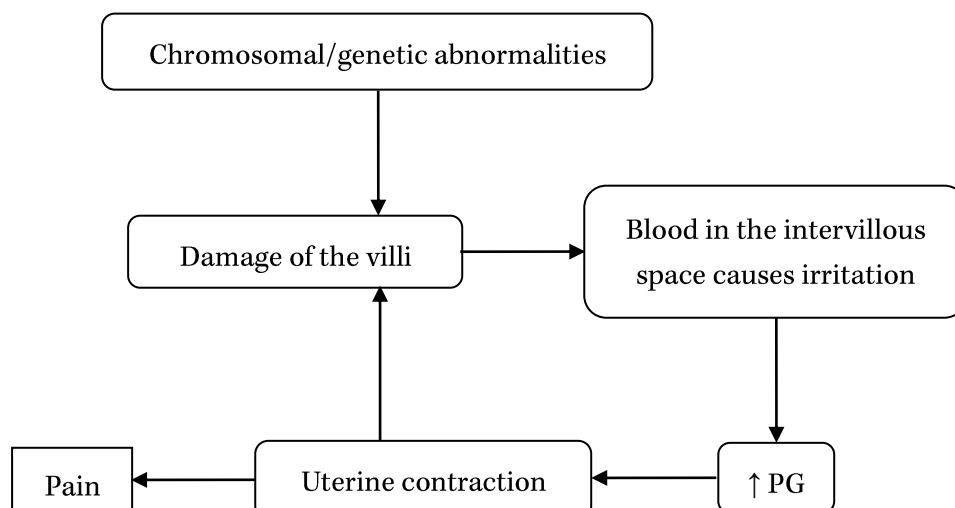
PCOS diagram 4: Treatment targets



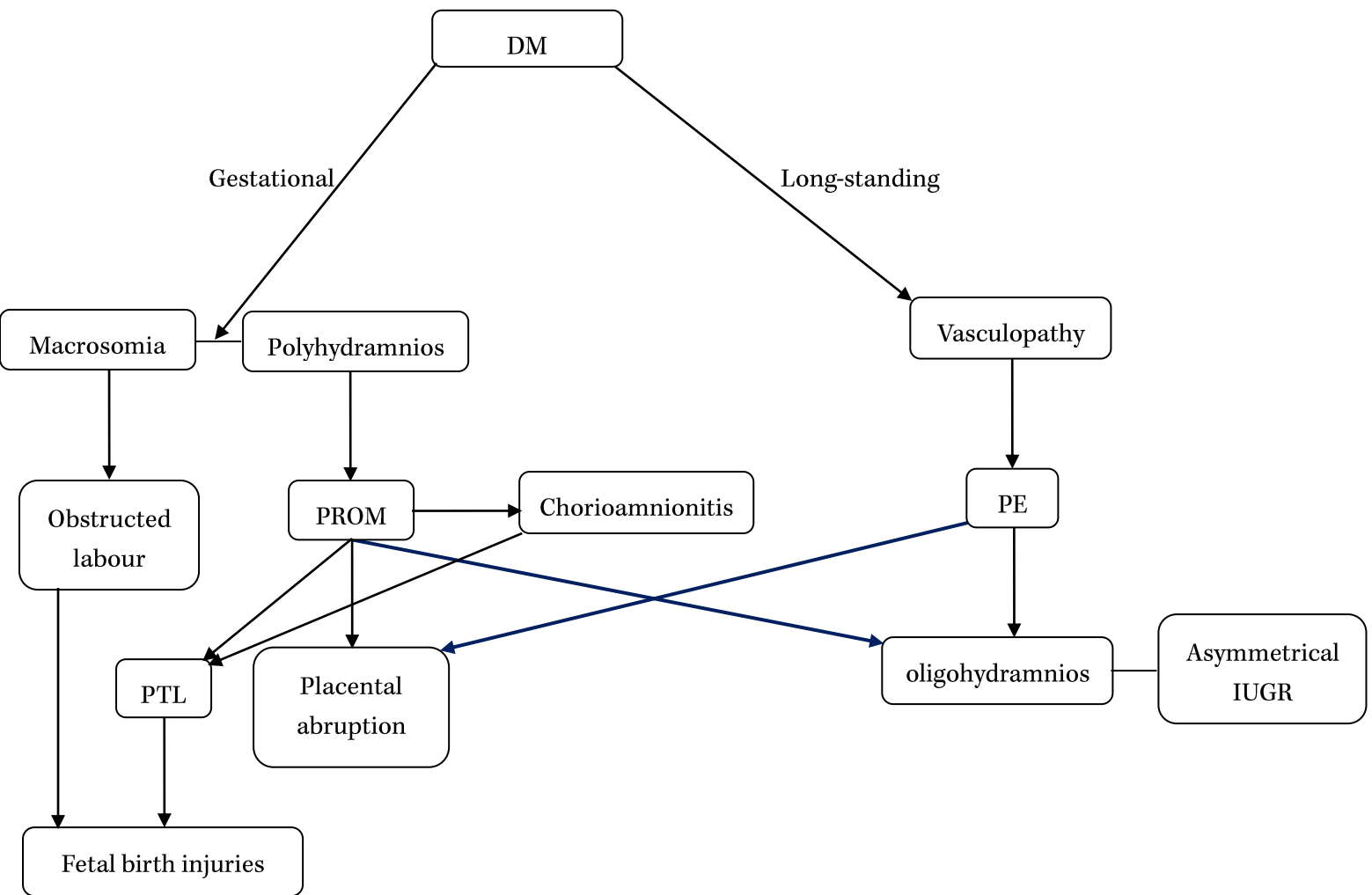
EARLY PREGNANCY BLEEDING



How Chromosomal/genetic abnormalities cause abortion



EFFECTS OF DM ON PREGNANCY & LABOUR



*Blue thick arrows indicate the relations between common consequences between gestational & long-standing DM

Collections

INCIDENCE

Gynaecology

<i>Gynaecology</i>		
MOST COMMON CAUSE OF	1st Most common	2nd Most common
Delayed puberty	Chromosomal, genetic & autoimmune disorders	-
Cryptomenorrhea	Imperforate hymen (0.1% of newly born feale)	Transverse vaginal septum
1ry amenorrhea	Turner syndrome (representing 30% of all the causes)	Complete or partial Mullerian agenesis (Mayer Rokitansky Kauster hausser syndrome) (represents 20% of all causes) {3 rd common →Complete androgen insensetivity syndrome (CAIS)}
2ry amenorrhea	PCOS as a pathological cause (Pregnancy as a physiological cause)	Hyperprolactinemia (20%)
Female Infertility	PCOS	Hyperprolactinemia
	Chronic anovulation in general is the most common cause of female infertility ,responsible for 40% of cases.	
Chronic anovulation	PCOS	Hyperprolactinemia
Menstrual irregularities (especial in the child bearing & premenopausal periods)	Anovulation	
Hyper prolactinemia	Physiological →Pregnancy & lactation Pathological→Prolactinoma (microadenomas are the commonest)	-
Hirsutism	Idiopathic	PCOS
Vulval itching in elderly women	Lichen sclerosus et atrophicus	
Non-irritant,malodorous vaginal	Bacterial vaginosis	

discharge			
Child bearing period vaginitis	1 st BV	2 nd Candida vaginitis (30%)	3 rd Trichomonas vaginalis vaginitis (25%)
Acute salpingitis	Neisseria Gonorrhea		
Rectovaginal fistula	Badly healed, complete perineal tear [Usually from obstetric trauma]		
Perineal laceration	Allowing premature extension of the foetal head before crowning (Bad management of the 2 nd stage of labor)		
Femal urethral urinary incontinence	SUI	Urge incontinence	
Urge incontinence	Idiopathic		
genito-urinary fistula	in developed countries → traumatic (from pelvic surgery) in developing countries → necrotic (during VD due to prolonged compression of the bladder between the presenting head & the bony pelvis)		
Bilateral epididymeal obstruction	Gonorrheal inflammation		
AUB	DUB (60% of AUB)		
Post menopausal bleeding	Atrophic vaginitis	Endometrial carcinoma (Most serious)	
Atrophic vaginitis	Postmenopause (senile vaginitis)	Breast feeding	
Death in cancer cervix	Renal failure (due to ureteric obstruction)		
MOST COMMON SWELLING IN			
Vulva	Bartholin cyst (abscess)		
Vagina	Prolapse		
Cervix	Mucous polyp		
Uterus	-Pregnancy (physiological) -Fibroid (pathological)		
Ovary	Functional cyst /dermoid cyst		
Tube	with pus →PID with blood→ Ectopic pregnancy		
Douglas pouch	Endometriosis (RVF)		
MOST COMMON PRESENTING SYMPTOM OF			
BV	Vaginal discharge (profuse,thin,homogenous,non-irritant,malodorous,yellowish grey or white in color)		
Acute PID	Acute lower abdominal pain		
Fibroid	Menorrhagia (30% of the cases)		
Endometrial carcinoma	Post menopausal bleeding		

Cervical cancer	Contact bleeding		
MOST COMMON			
Prolactinoma	Microadenomas		
Bacterial Vaginal infection	Bacterial vaginosis		
Symptom in bacterial vaginosis	Vaginal discharge		
Organ affected with PID	Fallopian tube		
Used method of contraception in developing countries	IUD		
Used method of contraception worldwide	COCs		
used injectable progestogen	DMPA (depot medroxyprogesterone acetate)		
Used methof of female sterilization	Laparoscopic tubal occlusion		
Complication of Burch colposuspension	Overcorrection		
Affected age group by DUB	Child bearing period (60%)		
Affected sites by FGT bilharziasis	Vulva, vagina & cervix (=Lower FGT)		
Benign tumor of female genital tract	Uterine Leiomyoma (Fibroid)		
Approach in myomectomy	Abdominal		
Site of endometriosis	Ovary	the pelvic peritoneum (Douglas pouch))	
Gynaecologic malignancy	1 st Endometrial carcinoma [But most curable]	2 nd Carcinoma of the cervix [But most preventable]	3 rd Ovarian cancer [But most lethal]
Non neoplastic cyst of ovary (functional cyst)	Follicular cyst (2 nd MC is CL cyst)		
Ovarian neoplasm	Epithelial ovarian neoplasms (60-70% of all ovarian tumours) [Both benign & malignant]		
Benign ovarian neoplasm	Serous cystadenoma (10-15% of all ovarian tumours)		
Benign ovarian cysts to turn malignant (highest malignant potential)	Papillary serous cystadenoma (up to 50%)		
Ovarian swelling in child bearing period	-Functional cysts -Dermoid cyst (Benign Cystic teratoma)		
Ovarian tumor in pregnancy	Dermoid cyst (Benign Cystic teratoma)		
Ovarian tumor to be complicated /undergo torsion	Dermoid cyst (Benign Cystic teratoma)		
Complication of benign ovarian neoplasm	Torsion		
Malignant germ cell tumor of the ovary	Dysgerminoma (1-3% of all ovarian cancers) (EST is the 2 nd most common)		
Vulval complaint	Vulval itching		
Infectious diseases in developde countries	STDs		

MOST COMMON TYPE OF	
RVF uterus	Congenital
Genito-urinary fistula	vescio & uretro vaginal
Cervical polyp	Mucous polyp
Invasive cancer of vulva	Squamous cell carcinoma (92%)
HIV	Type 1
MOST COMMON PATHOLOGICAL CHANGE OF LEIOMYOMA IN	
Menopause	Atrophy
Child bearing period	Hyaline degeneration
Pregnancy	Red degeneration (Necrobiosis)

Obstetrics

MOST COMMON CAUSE OF	1st Most common	2nd Most common
Early Pregnancy bleeding	Abortion (Spontaneous in 10-15% of all pregnancies)	Ectopic Pregnancy (0.5-2% of all pregnancies)
Late pregnancy bleeding (Antepartum haemorrhage)	Placenta previa (Painless)	Placental abruption (Painful)
Prolonged third stage of labour	Inadequate uterine contractions	
non engagement of the head before onset of labor in primigravida	occipito posterior position	
Occipitio posterior position	Android shape pelvis	
Breech presentation	Prematurity	Idiopathic
Obstructed labour	Persistent oblique & transverse OP positions	
Shoulder dystocia	Fetal macrosomia (risk factor not a cause)	
Rupture uterus in developed countries	VBAC	
Rupture uterus in developing countries	Obstructed labour	
1 st postpartum hemorrhage	uterine atony	
PROM	Infection (risk factor not a cause)	
Preterm labor	Idiopathic	
Post term pregnancy	Uncertain dates	
Neonatal morbidity & mortality in relation to prematurity	Preterm labor	
Polyhydramnios	gestational diabetes mellitus	
Acute abdomen in pregnancy	Appendicitis	Because common is common !
Fever in pregnancy	Tonsillitis	
Jaundice in pregnancy	Hepatitis A	

IUGR	PE		
MOST COMMON			
Site of ectopic gestation	Fallopian tube (96%)		
Benign form of gestational trophoblastic disease (GTD)	Vesicular mole		
Clinical presentation of placenta previa	Painless recurrent fresh vaginal bleeding in the 3 rd trimester		
Type of adherent placenta	Placenta accreta		
Type of placental abruption	Revealed	Mixed (bleeding partially concealed & partially revealed)	
Type of diabetes in pregnancy	Gestational diabetes		
UTI in pregnancy	asymptomatic bacteruria (in 6% of all pregnant women)		
Medical disorder in pregnancy	Anemia		
Fetal Position	Occipito anterior position		
Type of female pelvis	Gynaeciod		
Position in face presentation	left mento anterior (LMA)		
Form of multi fetal pregnancy	Twin (97%)		
Causative organism in puerperal sepsis	anaerobic streptococci		
Iry site of infection in puerperal sepsis	Uterus		
Tear of VD	Perineal tear (but rupture uterus is the most serious)		
Prophylactic surgical procedure for cervical incompetence	Vaginal cerclage (Mainly McDonald's procedure)		
Site of metastasis of GTN [Include: Invasive mole-Gestational Choriocarcinoma-Placental site trophoblastic tumor-Epithelioid trophoblastic tumor]	Lung (80%)	Vagina (30%)	

More in white race:	More in dark race:
Stress Urinary Incontinence ⁶	Urge Urinary incontinence ⁶
Osteoporosis	Fibroid
Epithelial ovarian cancer	Twins
(Endometriosis) [according to Williams Gynaecology 3 rd ed. Results are variable, some studies show increased risk while others show no statistical significant difference among ethnic & racial groups]	Polyhydramnios

Asian → Vesicular mole

PATHOLOGY

Shape of the organ	Condition	Method of visualization
Necklace appearance of the ovary	PCOS	US
Oyster shell ovary	PCOS	Laparoscope
Cottage cheese discharge	Candidiasis	Naked eye
Retort shaped fallopian tube	Hydrosalpinx	
Tobacco pouch appearance of fallopian tube	T.B pyosalpinx (due to eversion of fimbriae)	
Pipe-stem appearance of fallopian tube	T.B salpingitis	H.S.G
Egg shell appearance of myoma	Myoma peripheral calcification	Plain X-ray or US
Womb stone appearance of myoma	Myoma diffuse calcification	Plain X-ray or US
Powder burns	Superficial lesions of ovarian endometriosis [considered as a part of Pelvic Endometriosis]	Laparoscopy
S-shaped vulva	Bartholin's duct cyst	Naked eye
Dusky red vulvar lesion	Squamous cell hyperplasia	Naked eye

Pathognomonic feature	Identity	Condition	Method of visualization
Clue cells	Stippling of cytoplasm of vaginal epithelial squamous cells due to adherent coccobacilli	BV	Saline Wet mount Microscopic examination of vaginal secretions
Hyphae or pseudo-hyphae ± budding yeast	-	Candidiasis	Wet mount Microscopic examination of vaginal secretions
Hemosiderin laden cells (macrophages)	-	Ovarian endometrioma (Chocolate cyst)	Histological examination (by light microscope)
Donovan bodies	Pathognomonic cells	Granuloma inguinale	Microscopic examination Scrapings from the ulcers
Koliocytes or halo cell	LSIL	HPV infection	Pap smear
Psammoma bodies	Calcifications within the core of some of the papillae due to	-Benign Papillary serous cystadenoma of the ovary	Pelvic X-ray (seen as calcified radio-opaque shadows)

	obstruction at the neck and accumulation of secretions.	-Well differentiated serous cystadenocarcinoma of the ovary	
Epithelial cell nests with coffee bean nuclei	-	Brenner tumour	Light Microscope
Shiller-Duval bodies	Cystic spaces in which projects glomerulous-like structure with a central vascular core.	Endodermal sinus tumour (EST)	Light Microscope
Call-Exner bodies	Cystic spaces surrounded by granulosa cells arranged in a rosette like shape.	Granulosa cell tumour	Light Microscope
Signet ring cells	Nucleus pushed aside by abundant cytoplasm	Krukenberg tumour (Atypical metastatic ovarian cancer)	Light Microscope

INVESTIGATIONS

Gynaecology

Gold standard for diagnosis of

Imperforate hymen	Pelvic US
Ovarian swellings (either non-neoplastic or neoplastic, benign or malignant)	Pelvic US [Actually it can detect any pelvic mass & suggest its origin]
Gestational Choriocarcinoma	Persistent high β-hCG levels after evacuation of a molar pregnancy in absence of a new pregnancy
Adenomatous endometrial polyp	Hysteroscopic-guided polypectomy
Cancer cervix	Histopathologic examination of cervical tissue biopsy
Endometrial carcinoma	Fractional curettage
Infertility evaluation	Hysterosalpingography (HSG)
Adenomyosis	MRI
Endometriosis & its staging	Laparoscopy
Leiomyoma	Pelvic US
Small endometrial polyps, SMF polyps & SMM	Hysteroscopy (& SIS) [It is also therapeutic through hysteroscopic myomectomy]
Acute PID	Laparoscopy
AUB	Pelvic US (TAS/TVS/3D)
Uterine and adenexal pathology exclusion in DUB (as myomas ,adenomyosis or polyps)	Pelvic US (TAS/TVS/3D)
Endometrial hyperplasia	Endometrial biopsy
RVF	Pelvic US (TAS & TVS)

Obstetrics

Gold standard for diagnosis of

Obstetric causes of Antepartum hemorrhage (Placenta previa, Placental abruption & vasa previa)	US
Type of PL PRV	
Large retro placental hematoma in concealed haemorrhage	
GA & expected weight (fetal biometry)	
Fetal congenital anomalies	
Molar pregnancy	
Shoulder presentation →TAS	
Cervical ectopic → TVS	
Tubal ectopic pregnancy	B-hCG doubling time (but laparoscopy is diagnostic)
Ovarian ectopic	Laparoscopy

- Pelvic X-ray → detect Psammoma bodies of
serous cystadenoma & dermoid cyst
- Fetus + vesicles by US = partial mole OR
Non-identical twins
- Filling defect in HSG:
 1. SMM
 2. Ashermann syndrome
 3. Septum

CULTURE MEDIA

Organism	Culture medium
Candida	Sabouraud Dextrose Agar (SDA)
Mycobacterium tuberculosis	Lowenstein-Jensen medium (& visualized by Zeal-Nelsen stain)
Neisseria Gonorrhea	Thayer Martin medium
Chlamydia trachomatis	McCoy tissue culture

TUMOR MARKERS

Tumor Marker (present in the serum)	Condition
Human placental lactogen (hPL)	Placental site trophoblastic tumor
Lactate dehydrogenase (LDH)	Dysgerminoma
alpha feto protein (AFP)	Endodermal sinus tumor (EST)
Human chorionic gonadotrophins (hCG)	Choriocarcinoma
CA-125 (cancer antigen 125)	Epithelial ovarian tumors *It may be also elevated in benign conditions as endometriosis so it has only a prognostic value not for screening , where the decrease of initially elevated levels indicates good prognosis*
Thyroxin	Struma ovarii
Androgens	Sertoli-Leydig cell tumor
Inhibin	Granulosa cell tumor

TESTS

Test	Condition	Technique	Result
<i>Gynecology</i>			
Ferning test [means arborization and not a scientist name]	Cervical mucous changes	Microscopic examination of a drop of cervical mucus left to dry for 10 minutes on a glass slide.	In the follicular phase → An arborizing palm leaf pattern (due to its high sodium chloride and potassium content in response to high estrogen levels (the cervical mucus forms fern-like patterns due to crystallization of sodium chloride on mucus fibers) ¹ = +ve test In the luteal phase → The arborizing pattern is lost = -ve test
Spinnbarkeit test [No, there's nobody called Spinnbarkeit -_- it means stretchability test in german]	Cervical mucous changes	Drawing cervical mucous drop put between two slides	A +ve test means that cervical mucus can be drawn between two slides into threads stretching up to 10 cm due to high mucus content in response to high estrogen levels.
Whiff test (A whiff means a slight smell, carried on a current of air [Also Not a scientist name -_-])	BV	Adding 10% KOH to a fresh sample of vaginal secretions	Chracteristic fishy odour due to the release of volatile amines
Cough stress test	Stress urinary incontinence	Eliciting involuntary escape of urine through the urethra during cough while bladder is partially filled and the patient is in an erect or better lithotomy position.	
Bonney's test (Yes, this is a scientist's name!!)	Stress urinary incontinence	With the patient in the lithotomy position, perform a cough stress test to elicit a positive SUI.	If no urine escapes → Then, the bladder neck descent is the cause & surgical repair will be successful If urine escapes → Then, weakness of the bladder neck will be the cause
Lymph Notes Page 49			

		<p>The bladder neck is then elevated gently by index and middle fingers of the examiner's hand, placed in the vagina on each side of the urethra without compressing it (as if trying to correct mild vaginal and bladder neck descent).</p> <p>The patient is asked to cough or strain again:</p>	
Q-tip test	Stress urinary incontinence	Detect the mobility of the urethro-vesical junction on straining.	More than 30 degrees mobility during straining indicates a hypermobile urethro-vesical junction
The Post coital test (PCT)	Assessment of cervical factor of female infertility	Examination of the cervical mucous 6-10 hours after intercourse, at time of ovulation, to assess the number of living and dead sperms and presence of leucocytes, affecting sperm motility within the cervix	<p>-normally > 20 progressively motile sperms / HPF)</p> <p>-An abnormal PCT may point to hostile cervical mucus or presence of antisperm Abs.</p> <p>-It is of limited prognostic value</p>
Cervical Pap smear test	Screening for CIN	<p>Cytologic examination of cells shed from both ectocervix and endocervix.</p> <p>It is performed using a cytobrush to wipe cells from the endocervical canal and from the surface</p>	<p>1.-ve = No atypical cells</p> <p>2.ASCUS (atypical squamous cells of undetermined significance) : cells don't fulfill the criteria for squamous intra-epithelial lesions (SIL)</p> <p>3.LSILs (Low grade SIL) =CIN I</p> <p>4.HSILs(High grade SIL) = CIN II &</p>

		<p>of the TZ of the ectocervix.</p> <p>Cells obtained are spread on a glass slide fixed by ethyl alcohol and stained by Papanicolaou stain.</p>	<p>CIN III</p> <p>5.Squamous cell carcinoma</p> <p>6.Atypical glandular cells.</p> <p>7.Endocervical adenocarcinoma</p>
<i>Obstetrics</i>			
Pinard's method	CPD test	<p>-With patient in semi-sitting position, Operator Lt hand grasps the fetal head & tries to push it downwards in the pelvis along the pelvic axis.</p> <p>-The fingers of the Rt hand placed over SP to determine the degree of disproportion</p>	<p>-No CPD the head can be pushed into the maternal pelvis passing behind the SP</p> <p>-Moderate CPD: the head stops at the same level as SP</p> <p>-Marked SP: the head overrides the anterior surface of the SP</p>
Muller-Kerr method	CPD test	-with patient in dorsal position, PV + Pinard's method	
Weiner test (clot observation test)	Detecting fibrinolysis in DIC	5-10 cc of blood in test tube incubated at 37°C	<p>-clot within 3-8 min =Normal</p> <p>-clot after >8 min. and dissolves in 1 hour =Hypofibrinogenemia</p> <p>-No clot= afibrinogenemia</p>
Non stress test	Antepartum assessment of fetal wellbeing	Test FHR changes in response to fetal movements over 20 minutes by CTG	<p>-Reactive: rise at least 15 bpm for at least 15 sec. at least twice within a period of 15-20 min.</p> <p>-Non-reactive</p>

S I G N S

Name	The sign	The condition
Halban's sign	symmetrically enlarged uterus which is sometimes tender especially in the premenstrual period	Adenomyosis
Goodell's sign	Soft cervix	Pregnancy
Chadwick sign	Bluish cervix	Pregnancy
Turtle sign	The head recedes backwards shortly after its delivery	Shoulder dystocia
Jumping sign	Horse shoe induration around the cervix with extreme tenderness	Parametritis (complicating puerperal sepsis)
Phlegmasia alba dolens	Oedematous white non tender L.L	Femoral vein thrombosis (complicating puerperal sepsis)

CRITERIA

Name	Condition	Criteria
Rotterdam	PCOS	1-Chronic anovulation 2-Hyperandrogenism 3-Characteristic US morphology (necklace appearance)
Adam's	PCOS	3 10s 1-Ovaries are increased in size (10 cm ³) 2-Central dense stroma surrounded by small follicles (10 follicles) (each 2- 10 mm in diameter) peripherally arranged → Necklace appearance
AMSEL	Bacterial vaginosis	1-Microscopic ex. Show clue cells 2-Whiff test → fishy odour 3-Vaginal pH > 4.5
Spiegelberg criteria	Ovarian pregnancy	-
Rubin's criteria	Cervical ectopic pregnancy	-
Studdiford criteria	Primary abdominal pregnancy	-

SCORES

Score	Use	Items assessed	Score range
Bishop score	Induction of labour	1- Cervical Position 2- Cervical Consistency 3- Cervical Effacement 4- Cervical Dilatation 5-Head station	0-2 for the first 2 0-3 for the last 3 Max 13
BPP score	Antepartum assessment of fetal wellbeing	1-foetal tone 2-Foetal body movements 3-Foetal breathing movements	0 OR 2 for each Max: 10 Min.:2 (not 0 as there is the 2 points of the AFI)

		4-AFI 5-NST	
APGAR score	Clinical assessment of the new born at 1 & 5 minutes	1-Appearance 2-Pulse 3-Grimace 4-Activity 5-respiration	0-2 for each Max: 10

DIAGNOSIS

Syndromes	
Mayer Rokitansky Kauster Hausser Syndrome = Complete or partial Mullerian agenesis	Females (46 XX karyotype) with congenital genetic defect resulted in failure of development of Mullerian structures (the uterus, cervix & upper vagina) Possibly due to unwanted intrauterine exposure to anti-Mullerian hormone.
Complete androgen insensitivity syndrome = testicular feminization syndrome	Male (46 XY karyotype) that develop phenotypically as female due to an x-linked inherited recessive disorder of defective peripheral androgen receptors, rendering these subjects androgen resistant
Asherman's syndrome	Acquired intrauterine adhesions which prevent endometrial proliferation, leading to 2 ^{ry} amenorrhoea.
Turner syndrome = Gonadal dysgenesis	A Chromosomal defect in which one X chromosome is missing (45XO karyotype) and the ovaries are replaced by fibrous tissue (streak gonads) {MC cause of 1 ^{ry} amenorrhoea responsible for about 30% of the cases}
Resistant ovary syndrome	A condition in which viable ovarian follicles fail to respond to pituitary gonadotropins due to defect in their FSH/LH receptors causing 2 ^{ry} amenorrhoea with high FSH & LH.
Empty sella syndrome	Enlarged sella turcica that is not entirely filled with pituitary tissue.
Lorain Levi syndrome	Amenorrhoea + dwarfism ²
Sheehan's syndrome	Anterior pituitary necrosis following severe postpartum hemorrhage. It first presents with failure of lactation
Simmond's disease = pituitary cachexia	Panhypopituitarism due to pituitary damage resulting from causes other than PPHge as tumor, radiation, infection or stroke
Kallmann's syndrome	Congenital GnRH deficiency + anosmia due to failure of neuronal migration of olfactory placode in the nose.
Galactorrhea Amenorrhoea syndromes	
Forbes- Albright syndrome	= Prolactinoma

Chiari Frommel syndrome (= Lactation-Uterus Atrophy = Postpartum Galactorrhea-Amenorrhea Syndrome) ³	↑ prolactin postpartum
Ahumada-Del-Castillo syndrome (=Amenorrhea-Galactorrhea-FSH Decrease Syndrome= Argonz-Del Castillo Syndrome= Galactorrhea-Amenorrhea without Pregnancy = Nonpuerperal Galactorrhea-Amenorrhea) ³	↑ prolactin but not related to pregnancy
Ovarian hyperstimulation syndrome (OHSS)	An iatrogenic disorder that describes the occurrence of ovarian multicystic enlargement secondary to the use of drugs for induction of ovulation, namely HMG/hCG
Polycystic ovary syndrome (PCOS) = Sclero-cystic disease of the ovary (as a macroscopic pathology picture) = Stromal hyperthecosis (as a microscopic pathology picture)	A syndrome characterized by 2 or more of: (Rotterdam criteria) -Chronic anovulation (presenting by 2 ^{ry} amenorrhoea or oligomenorrhoea) ← Clinical -Hyperandrogenism (hirsutism + ↑ serum LH & free testosterone) ← Lab -Characteristic ultrasound morphology : increased ovarian size with peripherally arranged small follicles in a dense stroma (necklace appearance)
Premenstrual syndrome (PMS)	A group of physical and/or emotional changes that constantly occur and recur in the luteal phase of successive cycles. Changes should be severe enough to interfere with the patient's regular life style to be classified as PMS
Post-ligation syndrome	In female sterilization
Cancer corpus triad for EC	Obesity + HTN + DM
Pseudo-Meigs syndrome	Pedunculated fibroid causing ascites [Rare]
Youssef's syndrome	Utero-vesical fistula causing Menouria (= cyclic hematuria) & the possible absence of vaginal bleeding during menstruation.

	It is usually iatrogenic during CS , especially emergency LSCS. ⁷
Meig's syndrome	The association of ovarian fibroma with ascites & right side pleural effusion that disappears on removal of the tumour
Lynch type II syndrome	Hereditary non polyposis colorectal cancer syndrome with endometrial, breast or ovarian cancer
HELLP syndrome	Hemolysis + elevated liver enzymes + low platelets
Supine hypotension syndrome	Maternal supine hypotension in the 2 nd half of pregnancy due to pressure of the pregnant uterus in the IVC causing decreased VR & CO.
Mallory Weiss syndrome	Haematemesis due to vascular tears & rupture with severe vomiting (may be seen in HEG)
Caudal regression syndrome (= Sacral agenesis)	FCA in overt DM (rare anomaly but specific to it)

Painful Ulcers	Painless Ulcers
Herpes	Syphilis
Chancroid	Granuloma inguinale

Inguinal lymphadenopathy	Generalized lymphadenopathy
Chancroid	HIV
Lymphogranuloma venerum	Syphilis
HSV	-

N.B: Granuloma inguinale is associated with inguinal swelling WITHOUT LYMPHADENOPATHY.

Functioning ovarian tumors:

Benign:

- Theca cell tumor
- Brenner tumour
- Struma ovarii

Malignant:

- Granulosa cell tumor
- Sertoli-leydig cell tumor
- Gynandroblastoma

TREATMENT

Gynaecology

Gold standard for treatment of

Stress urinary incontinence	Surgery "Burch Colposuspension" [But sling procedures (TOT & TVT) are most common used operations]
Vesico-vaginal fistula	Surgery [Low → (Vaginal: dedoublement) High and recurrent → (abdominal)]
Fibroid in young patients with infertility or low parity	Myomectomy
Multiple large leiomyomas	Abdominal myomectomy (Commonest approach)
Pedunculated SMF polyp & cervical myomas	Vaginal myomectomy
Small SMM <5 cm in diameter which protrude >50% in the uterine cavity	Hysteroscopic myomectomy
Myomas <4 in number, <6 cm in size mainly SMM +uterus <16 weeks size	Laparoscopic myomectomy
Myomas in multiparous, perimenopausal & menopausal patients especially when myomas are multiple & large or if malignancy is suspected	Hysterectomy
PMB with Endometrial hyperplasia	Hysterectomy
Perimenopausal bleeding not responding to medical or hormonal ttt (adenomyosis)	Hysterectomy
High grade CIN lesions (HSILs, CIN II-III)	Cold knife conization
Endometrial carcinoma	TAH-BSO (=Total abdominal hysterectomy with bilateral salpingo-oophrectomy)

Obstetrics

Gold standard for treatment of

Vesicular mole	Suction evacuation
Cervical incompetence	McDonald's procedure(vaginal cerclage)
Cervical incompetence in case of deep cervical lacerations or failed McDonald	Shirodkar procedure
Vasa previa	Emergency CS
Placenta accreta	Hysterectomy following CS (=Caesarean hysterectomy)

Maneuvers & methods	Use	Technique
Leopold's maneuver	Abdominal obstetric examination	Fundal & Umbilical grips-1 st & 2 nd pelvic grips
Ritgen maneuver	Controlled extension of the head during the 2 nd stage of labour	Gradual extension of the fetal head with adequate perineal support.
Brandt-Andrews method	Active delivery of the placenta	Continuous controlled cord traction with the right hand while the left hand is pushing the uterus upwards suprapubically.
Burns-Marshall's method	Assisted delivery of the after coming head of breech	When the occiput appears anteriorly hinging below SP, the infant's legs & feet are held & lifted upwards in a sweeping movement towards maternal abdomen.
Mariceau-Smillie-Veit maneuver (Jaw flexion shoulder traction method)	Assisted delivery of the after coming head of breech	With the back anterior, the fetus is held with the Lt hand of the obstetrician. The index & middle fingers of the Rt hand start gentle traction at the fetal neck downwards while the index & middle fingers of the Lt hand keep pressing on the maxilla to promote flexion of the head. When the occiput is traversing the pubic arch the baby is lifted outwards & upwards to deliver the head in flexion.
Kristeller's maneuver	Assisted delivery of the after coming head of breech	Gentle suprapubic pressure at the uterine fundus during head delivery done by the assistant to maintain flexion of the head.
Lovset's maneuver	Extension of the arms before delivery of the shoulders in vaginal breech delivery	Rotation of the fetal trunk 180 degrees to bring the posterior shoulder below the SP to be delivered by hooking the finger of the operator at the elbow and sweeping the arm down anterior. The same is repeated after rotating the body 180 degrees on the opposite direction to bring posterior arm anteriorly & deliver as described before.
Prague maneuver	Posterior rotation of the head in vaginal breech delivery	Holding the baby from the ankles by one hand, flexing the whole body towards

		maternal abdomen and performing downwards outwards traction on the shoulders from behind by the other hand to deliver the head in flexion.
McRobert's maneuver	Shoulder dystocia	Maternal thigh flexion with suprapubic pressure
Wood's cork screw maneuver		Internal rotation of fetal shoulders to oblique plane
Zavinelli maneuver		Cephalic replacement & CS
Jacquemier (Barnum's) maneuver		Delivery of the posterior arm
External cephalic version	Non-cephalic presentation (Breech or transverse lie presentations)	Conversion into cephalic presentation via rotating the fetal body through manipulation on the maternal abdomen
Internal podalic version & breech extraction	Second transverse lie twin during CS	-

OPERATIONS

Operation	Indications
<i>Gynaecology</i>	
Cruciate incision of the hymen	Imperforate hymen
Surgical excision of the transverse septum	Transverse cervical septum
Cervical recanalization & reconstruction	Cervical atresia
McIndoe operation	Mullerian agenesis & CAIS
Gonadectomy	CAIS
Hysteroscopic adhesiolysis	Asherman syndrome
Trans-sphenoidal surgery or gamma knife	Prolactinoma (Macro or resistant micro)
LOD	PCOS
D & C	1-Induction of abortion < 12 weeks 2-Control of DUB 3-Biopsy
Endometrial ablation	Recurrent DUB in absence of EH
Hysterectomy	1-Cervical atresia 2-Adenomyosis

	3-Multiple large Myoma in multiparous perimenopausal 4-Cervical ectopic 5-vesicular mole & GTN + department book P.280
Marsupilization	Bartholin cyst
Anterior colporrhaphy	Cystocele
Kelly's periurethral fascial plication sutures	SUI
Burch colposuspension	
Sling operations (TVT-TOT)	
Periurethral collagen injection	
Posterior colpoperineorrhaphy	Rectocele
Classical repair	Cysto-rectocele
Manchester (Fothergill's) operation	Supravaginal elongation of the cervix
Moschcowitz (abdominal culdoplasty)	Enterocoele
Abdominal sacro-colpopexy	Vaginal vault prolapse
Vaginal sacrospinous ligament fixation (SSF)	
Vaginal mesh repair	
Le Fort's operation	
Cervico-sacropepy	3 ^d degree uterine prolapse in young
Lawson tait's operation	Recto-vaginal fistulas in the lower third of the vagina
Dedoublement (vaginal flap splitting)	Low VVF
Abdominal repair of VVF	High recurrent VVF
Sim's (saucerization)	Fibrotic recurrent VVF
Abdominal re-implantation of the ureter into the bladder	Utero-Vaginal Fistula
Myomectomy	Myoma Multiple & large → Abdominal Pedunculated SMF polyp & cervical myoma → vaginal Small <5cm → Hysteroscopic <4 in number & <6 cm → Laparoscopic
Hysteroscopic Septoplasty	Septate uterus
Wertheim's radical hysterectomy(= TAH-BSO + pelvic lymphadenectomy+removal of parametrial tissue& 2-3 cm of the upper vaginal cuff)	Cervical cancer stages IA2,IB & IIA
Schauta's baginal hysterectomy	
Ovarian cystectomy	Small bilateral ovarian cysts in young patients
Oophorectomy	Large ovarian cysts
Unilateral salpingo-oophorectomy	Stage Ia in young patients as in malignant germ cell tumor, malignant sex cord stromal tumours & borderline

	epithelial ovarian tumors
TAH-BSO & Infracolic omentectomy	Early ovarian cancer
Initial debulking (Primary cytoreductive surgery)	Advanced Ovarian cancer
<i>Obstetrics</i>	
Suction & evacuation	1-Induction of Abortion <12 weeks 2-Molar pregnancy
McDonald's procedure (Vaginal cerclage)	Cervical incompetence
Shirodkar procedure	
Unilateral salpingectomy	Ectopic
Unilateral salpingostomy	
Trachelorrhaphy	Cervical laceration

NUMBERS

<i>Gynaecology</i>	
Imperforate hymen	0.1% of newly born female
Turner syndrome	30% of cases with 1ry amenorrhea
Mayer Rokitansky Kauster Hausser syndrome	20% of cases with 1ry amenorrhoea (1:4000 female births)
Hyperprolactinemia	20% of cases of 2ry amenorrhoea
Indicates prolactin secreting adenoma	Prolactin > 100 ng/ml
Success rate of CC in induction of ovulation	85%
Risk of multifetal pregnancy with CC	1%
Risk of multifetal pregnancy with Pituitary gonadotropins	10-30%
PCOS	5-10% of women in reproductive age
Dysmenorrhoea	Affects 45-90% of women in their reproductive age 50% → Significant pain 10% → Incapacitated
Normal menstrual bleeding	Every 3-5 weeks (average 28 days) Duration=3-5 days Blood loss = 30-50 ml/cycle
DUB	60% of AUB causes 20% at adolescent 40% > 40 60% in child bearing period
Infection	
Bacterial vaginosis and trichomonas vaginalis is asymptomatic in	50% of women
Chlamydia is asymptomatic in	75%
Ratio of anaerobes to aerobes	10:1
Normal vaginal pH	3.8-4.5
Vaginal pH in BV	4.7-7
+ ve predictive value of Microscopic ex. Of saline wet smear of vaginal secretions	95%
Cure rates in non-pregnant women with BV	80-90%
Recurrence of BV of treated women within 3 months	30%

Candida vaginitis responsible for	30% of cases with vulvovaginitis
Candida albicans	>80% of cases
Cervical hemorrhages in TV	25%
Neisseria gonorrhea causing PID	27-80%
Chlamydia causing PID	20-40%
Endometrium involvement in TB	80%
Ovarian involvement in TB	20-30%
NAAT sensitivity in endocervical specimen to detect N. gonorrhoea	96.7%
NAAT sensitivity in endocervical specimen to detect Chlamydia	85%
NAAT specificity in endocervical specimen to detect Chlamydia	99%
Vaginally delivered neonates to chlamydia infected mothers	50% → Chlamydial conjunctivitis 10% → late onset pneumonitis
HPV associated with other STDs in	25%
Pruritis with vaginal discharge	80%
General gyna	
POP	12-30%
SUI	5% <45 10% 45-60 <30% of >65
Kelly's sutures success rates	60-70%
Success rates of Burch	95%
Success rates of TVT	90%
Myoma in child bearing period	20%
Endometriosis	10% in child bearing period 20% of chronic pelvic pain causes 30% of causes of infertility
Couples with infertility in first year	15%
Causes of infertility	50% female 40% male 25% both
Success rates of IVF/ICSI	25-40%
Success rate of COC	99%
Causes of female infertility	40% anovulation 30% tubal 15% uterine
Oncology	
Incidence of GTN	50% after molar evacuation

	25% after abortion
Functional cysts	24% of all ovarian cysts
Serous cystadenoma	10-15% of ovarian tumors bilateral in 30%
papillary serous cystadenoma	50% turns malignant
Malignant germ cell tumors age incidence	<30 years
epithelial tumors	60-70 % of ovarian tumors
Metastatic ovarian tumors	5-6% of all ovarian tumors
mucinous cystadenoma	5% turns malignant
Struma ovarii secreting sufficient thyroid hormone	5%
Brenner's tumor	15% bilateral
germ cell tumor	20-30% of all ovarian tumors
granulosa cell tumor	5% of ovarian tumors
Krukenberg	30-40 % of metastatic cancer of ovary
<i>Obstetrics</i>	
Spontaneous abortion	10-15% of all pregnancies
Cytogenetic disorders	70% of 1 st trimester abortion
Ectopic	0.5% of all pregnancies
Tubal ectopic	96% of ectopic ovarian < 3% cervical < 1% abdominal < 1%
Theca lutein cysts	associated with 25-60% of complete moles
Placenta previa	0.5% of all pregnancies
Placental abruption	1% of all pregnancies
Eclampsia	1-2% of pre-eclampsia
PE	proteinuria > 300mg/24h BP >140/90 but less than 160/110
Uterine artery doppler US High resistance flow with diastolic notch	75% of women that may develop PE later in pregnancy
Severe PE	Proteinuria > 5g/24h BP >160/110
HELLP syndrome	5-10% of PE
Chronic HTN	2-5% of pregnancies
Nausea & vomiting of pregnancy	50-80% of pregnant women
Hyperemesis gravidarum	1-2% of pregnancies
GERD	70% of pregnancies

Intrahepatic cholestasis of pregnancy	1-4%
Asymptomatic bacteruria, acute cystitis	30% turns acute pyelonephritis
Anemia	50% of pregnancies worldwide
Occipito anterior	70% of 1 st stage of labor
occipito posterior	25%
96% of occipito posterior	vaginal delivery
Face presentation	1/500
Brow presentation	< 1/2000
Breech presentation	3-4% at term
Shoulder presentation	1/200
Cord presentation	< 1/300
80% of breech	CS
Multifetal gestation	1-2% of all pregnancies
Twin	97% of MFP
PROM	10% of pregnancies
Polyhydramnios	1% of pregnancies
IUFD	< 1% of pregnancies

DOSES

Drug	Dose
Hyperprolactinemia	
Bromo-ergo-cryptine	2 mg (1-2 tablets daily)
Lisuride hydrogen maleate	0.2 mg (1-2 tablets daily)
Cabergoline	0.5 mg (1/2 tablet twice weekly for 4 weeks)
Anovulation	
Clomiphene citrate	50 mg twice daily for 5 days starting 5 th day of menstruation. Dose can be increased up to 200 mg/day (4 tablets)
Tamoxifen	10-40 mg daily orally (1-4 tablets) daily for 5 days starting 2 nd day of menstruation
Cyclofenil	400 mg twice daily for 5 days starting 5 th day of menstruation.
Hypothyroidism	
Eltroxin	50-150 µg daily
PCOS	
Metformin	500 mg/day

DUB	
Tranexamic acid	500 mg t.d.s orally
Mefenamic acid	500 mg t.d.s orally
Cyclic gestagens	Oral tablets 10 mg daily for 10-14 days/month
Infections:	
BV	
Metronidazole	500 mg twice a day for 7 days
Metronidazole gel vaginally	0.75% daily for 5 days
Clindamycin cream vaginally	2% daily for 7 days
Candida vaginitis	
Fluconazole	Single oral dose 150 mg
Butoconazole	2% cream 5 g daily for 3 days
Miconazole	4% cream 5 g daily for 3 days
TV	
Metronidazole or Tinidazole	2 g orally single dose
Acute cervicitis & cervical erosion	
Azithromycin	1 g orally single dose
Doxycycline	100 mg orally twice a day for 7 days
Acute PID	
Ceftriaxone	250 mg IM single dose
Doxycycline	100 mg orally twice a day for 14 days
Metronidazole	500 mg orally twice a day for 14 days
Severe PID	
Cefotetan	2 g IV every 12 hours
Cefoxitin	2 g IV every 6 h
Doxycycline	100 mg orally twice a day
TOA triple therapy	
Clindamycin	900 mg IV/8h
Metronidazole	500 mg IV/8h
Doxycycline	100 mg orally/12h
Uncomplicated N. Gonorrhea	
Ceftriaxone	250 mg IM single dose
Azithromycin	Same as that of acute cervicitis
Doxycycline	100 mg a day for 7 days
Disseminated gonococcal infections	
Ceftriaxone	1 g IM or IV every 24 h
Cefixime	400 mg orally twice daily to complete 7-14 days of ttt
Chlamydia	
Azithromycin	Same as that of acute cervicitis

Doxycycline	100 mg orally twice daily for 7 days
Chancroid	
Azithromycin	Same as that of acute cervicitis
Ceftriaxone	250 mg IM single dose
Granuloma inguinale	
Doxycycline	100 mg orally twice daily for at least 3 weeks
Azithromycin	1 g orally per week for 3 weeks
Lymphogranuloma venereum	
Doxycycline	100 mg orally twice daily for 21 days
HSV	
Acyclovir	400 mg orally 3 times a day for 7-10 days
Syphilis early disease	
Benzathine penicillin G	2.4 million units IM single dose
Doxycycline	100 mg orally twice daily for 2 weeks in non-pregnant with penicillin allergy
Syphilis late disease	
Benzathine penicillin G	2.4 million units IM every week for 3 weeks
Doxycycline	100 mg orally twice daily for 4 weeks in non-pregnant with penicillin allergy
Neurosyphilis	
Aqueous crystalline penicillin G	18-24 million units/day IV infusion for 10-14 days
Congenital syphilis	
Aqueous crystalline penicillin G	Early → 50 000 unit/kg IM single dose up to the adult dose Late → 50 000 unit/kg IM every week for 3 weeks up to the adult dose
<i>Obstetrics</i>	
MgSO ₄ for eclampsia	IV 5 g followed by maintenance with IV infusion 2g/h

SCIENTISTS

Name	Contribution to medicine	Condition
Shiller	Iodine	Colposcopy
	Duval bodies	EST
Halban's	Theory	Endometriosis
	Sign	Adenomyosis
Sim's	Speculum	VVF
	Position	
	Operation (saucerization op.)	
Bonney's	Test	SUI
	Hood operation	Fibroid
	Myomectomy clamp	
	Screw	
Pinard	Stethoscope	FHS
	CPD test	CPD assessment

POSITIONS

Name	Use
Lithotomy position	Most of Gynaecological examination & Most VD
Sim's position	VVF examination
Fowler's position (semi-sitting with flexed knees)	Puerpral sepsis ttt
Semi-sitting position	Delivery in Cardiac patient & Pinard's CPD test
Left lateral position	Fetal distress during labor
Dorsal position	Muller-Kerr CPD test
Modified dorsal lithotomy position	Hysteroscopy
Trendelenberg Position	Laparscopy ECV Shock Cord Prolapse
Policeman tip position :P	Erb's palsy

- 1st sign of puberty → Growth spurt (peak velocity at age of 11)
- In hypopituitarism → all hormones are inhibited except prolactin (galactorrhea)
- Most important part of levator ani muscle → pubococcygeus
- Natural estrogen is preferred over synthetic, whereas synthetic gestagens are preferred
- All contraceptive methods decrease risk of PID except IUD
- Most important support of uterus → Mackenrodt's ligament
- Most curable gynaecologic malignancy → endometrial carcinoma
- All gynaecological surgeries are performed Post-menstrual While all surgeries on pregnant women are performed after delivery by 3-6 months
- The most frequently encountered risk factor for pelvic organ prolapse → Vaginal birth trauma
- Least commonly encountered ovarian tumors → Sex cord stromal tumors

Most serious:

Complication of puerperal sepsis → septicemia

Type of placenta previa → central

Complication of eclampsia → IC Hge

First sign of **maternal fever** in chorioamnionitis is **fetal tachycardia**

Smoking → “Estrogen burners”

Gyn:

- Lower risk for EC & EH and any disease related to hyperestrogenemia
- Higher risk for Cx cancer and early menopause.

Obs:

Higher risk for Abortions, PTL, Accidental Hge, ectopic pregnancy (ciliary dysfunction) and lower risk for Preeclampsia.

How to differentiate between:

- PL PRV & Abruptio → Pain present in abruptio
- 2 MC causes of Hirsutism (idiopathic & PCOS)
 - Idiopathic → Regular menses
 - PCOS → Irregular or amenorrhea

No PV if there is:

- Blood per vagina → PL PRV
- Fluid per vagina → PROM

Maternal obesity can lead to:

- GDM (if class 2 or more during preg)
- Macrosomia (if 90 kg or more prepregnancy)
- DVT (if 80 kg or more prepregnancy)
- Chronic HTN and PE

Types of Estrogen & their sources:

E1 → Peripheral conversion in fat cells
→ Estrogen of menopause

E2 → Ovary → estrogen of childbearing period

Maturity determination

- Lecithin sphingomyelin ratio by amniocentesis (invasive)
- Placental calcification grade III by US (week 38)
- Meconium in AF → A Sonographic finding ONLY.

- ❖ Hydrocephalus → Breech presentation
- ❖ Anencephaly → face presentation
- ❖ Renal agenesis → Oligohydramnios
- ❖ Oesophageal atresia → Polyhydramnios

FHR

- ❖ Acceleration → relation between FHR & fetal movement
- ❖ Deceleration → Relation between FHR & uterine contraction
- Station= relation of the presenting part of fetal head to the ischial spines (which is actually the pelvic outlet not inlet)
- Engagement=relation of the widest transverse diameter of presenting part in relation to the pelvic inlet
- If the presenting part is at the pelvic inlet = Not engaged

Fundal level higher than GA

- Macrosomia
- Miscalculation
- Fibroid
- Vesicular mole
- Concealed accidental hge
- Polyhydramnios
- Twin pregnancy
- Malformations

Fundal level lower than GA

- Miscalculation
- Oligohydramnios
- IUGR
- Transverse lie
- Frank breech (due to early descent)

Pleural effusion

- Metastasis
- Meig's syndrome

“Differentiate by pleurocentesis”

- ❖ Ovarian carcinoma spread to the uterus = Stage IIA
- ❖ Uterine (endometrial) carcinoma spread to the ovary = Stage IIIA

In concealed Placental abruption, shock isn't proportionate to the external hge because:

1. Concealed Hge
2. Neurogenic shock from severe pain

“Concealed PL abruption can't be diagnosed by US as the retroplacental hematoma has the same consistency as the normal placenta”

Anencephaly

- Face Presentation
- Polyhydramnios (No swallowing center + No pituitary ADH → Diuresis + Choroid plexus secretes CSF in AF)
- Postterm (No cortisol which stimulates PG & oxytocin release inducing labor)
- Frog like Presentation
- Elevated AFP

Genetic Disorders

- MDR3 (Intrahepatic Cholestasis [ICH])
- LCHAD def. (Acute Fatty Liver of Pregnancy[AFLP])

Safest in Pregnancy

- ❖ Analgesic: Paracetamol
- ❖ Antibiotic: Penicillin / Erythromycin
- ❖ Antihypertensive: Alpha-Methyl Dopa

No Methergine

- PE
- Cardiac patient

Antihistaminics

- IHC
- HEG (Navidoxine)

>20 wk

- PE
- GDM
- IHC
- CDC definition of anemia (10,5 in 2nd half of pregnancy)

Chapter Medical Disorders

In Order:

- HEG (1st Trimester)
- IHC (2nd Trimester)
- AFLP (3rd Trimester)

”معظم النهج يمين إلا ٣ شمال“

شمال:

1. **Rupture uterus** (left wall stretched because Ut is dextrorotated)
2. **LOA**
3. **Position in FD** (left lateral position)

يمين:

1. **Ectopic Pregnancy** (Appendix is right)
2. **Pyelonephritis**
3. **ROP**
4. **Rotation of Uterus (Dextro)**

Methotrexate doses

Ectopic Pregnancy (1 mg/kg)

GTN (50 mg/m²)

SERMs

Tamoxifen: EC, Induction of ovulation

Raloxifen: ttt of Osteoporosis

HyperPRL

1. Anovulation
2. Amenorrhea
3. Hirsutism
4. Infertility
5. Delayed Puberty
6. LPD

Hypothyroidism

1. Anovulation
2. Amenorrhea
3. Hirsutism
4. Infertility
5. Precocious Puberty
6. Recurrent Abortions
7. HyperPRL

Elevated Thyroid hormones

1. GTD
2. HEG

Long acting GnRH agonist

- Prec. Puberty
- IVF&ICSI Protocols
- Fibroid
- Endometriosis
- Drugs causing amenorrhea
- Induced Menopause

Nasal Spray

- GnRH
- Calcitonin

35:

- 35 ug/day release of hormones by LNG-IUD
- 35 u/ml level of CA-125 normally

Hyperestrogenemia

Causes

1. Early Menarche
2. Delayed Menopause
3. Nulliparity
4. No Lactation
5. HRT for Menopause

Effects

1. Adenomyosis
2. Fibroid
3. Endometriosis
4. EH
5. EC
6. Follicular cysts
7. DUB

Premenstrual

Tenderness on Bimanual Ex: Halban sign in Adenomyosis

Biopsy: TB, Ovulation

Shapes of Cx

Barrel (Fibroid, cancer cervix, Chronic hypertrophic cervicitis, cervical ectopic & cervical abortion)

Funnel (in Incompetent Cx)

Causes of Pulmonary Embolism

1. DVT
2. Air Embolism
3. Vesicular Mole (RDS)
4. Amniotic Fluid

Some fun facts about drug classes in pregnancy

Penicillin is class B

Depakene (sodium valproate) is class D

Corticosteroid is class C

Ondansetron class C

Aspirin class C

APS-related complications in OBS

RPL, PTL, PE, IUGR, Oligohydramnios, Acc.
Hge

Hyperparathyroidism in pregnancy →
ureteric stones & tetany of newborn

Doppler

Choriocarcinoma (low resistance index and high diastolic flow)

Ovarian Malignancy (low resistance flow)

Torsion of Ovarian cyst

Prediction of PE (high resistance flow and diastolic notching in 18-24w)

Fetal wellbeing {TYPE 2 IUGR}: (if high resistance in Um. A [up to reversal of diastolic flow] and low resistance in MCA)

Rh incompatibility {fetal anemia in general}: (increased Peak systolic velocity in MCA)

Vasa previa (Diagnostic)

Placenta Percreta (Bridging vessels)

Prenatal diagnosis of Down syndrome in 1st Trimester (absent A wave in Ductus venosus)

DVT (Duplex)

3 Obstetric emergencies:

1. Trapped after coming head.
2. Rupture uterus.
3. Locked twins.

Brenner tumor

Benign.

Coffe **B**ean nuclei.

Lined by **B**ladder transitional epithelium.

- PE complicated by Accidental Hge in 10%
- Accidental Hge complicated by DIC in 10%
- 50% of DIC are due to accidental Hge
- 50% of accidental hge are due to PE
- ❖ PE → Oligohydramnios & IUGR
- ❖ DM → Polyhydramnios & Macrosomia

Maternal complications of vaginal breech delivery (5 Ps)

Prolonged labor.

PPHge.

Perineal lacerations.

PROM.

Puerperal sepsis.

General Management in Obs

		Conservative	Termination
Fetus	GA	Immature	Mature
	Condition	No distress	Distress
Mother	Labour	Not in labour	In labour
	Disease	Not severe	Severe

Immediate termination of pregnancy irrespective of GA

- Severe PE & eclampsia (CS or VD)
- AFLP
- Severe APH (CS)

X-ray

- Psammoma bodies in ovarian serous cystadenocarcinoma
- Calcified fibroid
- T.B
- Teratoma
- Calcified placenta
- Lithopedion

Epithelial ovarian cancer occurs in old age except:

Hereditary
Border line

*LDA → APS & prevention of PE (& IUGR it causes)

Ovarian tumors in prepubertal age

Non-functioning → Immature teratoma

Functioning → Malignant granulosa cell tumor

Head rotates in the same direction as the shoulders in the long anterior rotation from any posterior position (Occipitoposterior – Sacroposterior – Mentoposterior)

Delivery in flexion

1. OP (6% with posterior rotation) → Diameter distending the vulva: OFD (11.5 cm)
2. MA + 2/3 of MP → Diameter distending the vulva :SMV (11.5 cm)
3. After coming head of breech

MgSO₄ uses

- Severe PE/eclampsia for prevention or treatment of convulsions
- PTL → Tocolytic + Reduce risk of CP in preterm neonates < 28 wks

Chemotherapy uses

- Malignancy
- Ectopic pregnancy (methotrexate)
- Pseudomyxoma peritonii
- Benign ovarian cysts: Non-neoplastic (functional) ovarian cysts + Cystadenomas (Serosus + mucinous) & BCT

Hormonal contraceptive methods frequency of administration

- COCs **every day** for 21 days/ POPs everyday without a pill free interval
- Contraceptive adhesive skin patches → **Every week** for 3 weeks followed by a 7-day patch free period
- VCR → **Every 3 weeks** followed by a 7-day ring free period
- DMPA injection → Every 3 months
- SD PRG Implants & Mirena → Every 3 years

*BBT chart, MSPL, PEB & US folliculometry detect changes that occur AFTER ovulation while urinary LH kit detects LH surge BEFORE ovulation but can't confirm its occurrence !!

3 rings

Physiological retraction ring

Pathological retraction ring in obstructed labor

Constriction ring

DD of Ascites with fibroid

- Pseudo-Meigs syndrome
- OHSS due to use of drugs for induction of ovulation

Frequency of micturition D.D

- UTI
- Fibroid
- Prolapse
- DM
- Pregnancy

Excessive vaginal bleeding during labor

- During 2nd stage = Rupture uterus (associated with inertia & pain)
- During 3rd stage = Placenta accreta

Clinical notes

*Obs. Causes of vulvar edema → Obstructed labor OR PE

*Internal Hge presenting by acute abdomen in PE = Placental abruption OR rupture Glisson capsule.

PV in early pregnancy bleeding:

Bilateral adnexal masses = theca lutein cysts in V. mole

Unilateral adnexal mass = Ectopic pregnancy

*Any persistent vaginal bleeding after recent termination of pregnancy (Full term-Preterm-abortion-V.mole) = Choriocarcinoma UPO

*Any postmenopausal bleeding = EC UPO
(Management: 1- measure Endometrial thickness (ET) by US 2-Take biopsy by FC if ET > 4 mm)

*Any contact bleeding = Cervical carcinoma UPO

*Hypertension + albuminuria = PE

*Hypertension alone during pregnancy = Gestational HTN OR Thyrotoxicosis

*Hypotension+ acetone in urine = HEG (Hypovolemia + starvation ketoacidosis)

*Delayed menstrual period + β -hCG above discriminatory zone + absent intrauterine pregnancy = Ectopic

How to differentiate:

1. Simple serous cyst from follicular cyst

	<i>Simple serous cyst</i>	<i>Follicular cyst</i>
<i>Size</i>	10-15 cm	< 6 cm
<i>Age</i>	Old	Childbearing

2. Pyometra & Hematometra

<i>Pyometra</i>	<i>Hematometra</i>
Lower abdominal pain & fever + uterus tender & cystic	Amenorrhea + cyclic lower abdominal pain

3. Chronic inversion of the uterus & SMM polyp & prolapse

	<i>Chronic inversion of the uterus</i>	<i>SMM polyp</i>	<i>Prolapse</i>
<i>Sounding the uterus</i>	Uterine length markedly reduced	Normal uterine length	Uterine length reduced
<i>Abdominal fundal level</i>	Absent	Normal	Below normal
<i>Cervix</i>	-	Normal	Below normal

- Dilated int. os in early 2nd trimester = Cervical incompetence
- Dilated ext. os in early 2nd trimester = Abortion

*Asherman syndrome →
Hypomenorrhea
PCOS → Oligomenorrhea

Cervix below ischial spine with

- Vaginal vault below ischial spine = Prolapse
- Vaginal vault at the ischial spine = Congenital elongation of the cervix

Tables

Gynecology:

HYPERPROLACTINEMIA

Aetiology	Treatment
Physiologic: pregnancy and lactation	-
Drug induced: antipsychotics, phenothiazine, reserpine as they reduce dopamine release from hypothalamus	Stop medicine
Primary hypothyroidism dt ↑ TRH	Treat by eltroxin
Prolactin secreting pituitary adenoma microadenoma → common cause macroadenoma → rare + symptoms of ↑ICT	Treat adenoma: medical → dopamine agonists eg bromoergocryptine surgical → transphenoidal or gamma knife
Hypothalamic disorder Stress Tumor interfere with pit. Stalk	If tumor: referral

INFECTIONS

	Bacterial vaginosis	Candida vaginitis	Trichomonas vaginalis
Incidence	Most common	2 nd most common (30%)	3 rd most common (25%)
Causative Organisms	- Gardnerella vaginalis - Bacteroides & Mycoplasma hominis	- Candida albicans (80%) - Candida tropicalis & torulopsis glabrata (20%)	Trichomonas vaginalis (protozoon)
Sexual transmission	Absent	Rare	Present
Clinical picture			
Asymptomatic	50%	30%	25-50%
Vaginal or Cervical punctate haemorrhages	Absent	Absent	Present in 25%
Vaginal discharge			
Amount	Profuse	Scanty	Copious
Colour	Yellowish grey or White	White (Cottage cheese discharge)	Yellow or Green
Consistency	Thin & homogeneous	Thick	Frothy
Odour	Fishy amine smell	Non-odorous	Offensive
Irritation	Absent	Present	Present
Adherence to the vagina	Present	Present	Absent (since frothy)
Investigations			
Wet mount microscopic examination	Clue cells	Hyphae or pseudo-hyphae	Leukocytes + highly motile flagellated trichomonas in 70%
Vaginal pH	Alkaline (> 4.5)	Acidic (< 4.5)	Weak acidic (5-6)
Whiff test	+ ve	-ve	-ve
Treatment			

Drug	Metronidazole	Fluconazole	Metronidazole
Oral Dose	500 mg twice a day for 7 days.	single oral dose 150 mg	2g orally in a single dose
Intravaginal preparation	Clindamycin cream 2% daily for 7 days	Butoconazole 2% cream 5 g daily for 3 days	-
During pregnancy	Vaginal Clindamycin can be used from the 1 st trimester	Intravaginal ttt is safe through pregnancy	Oral Metronidazole used after 1 st trimester
Sexual partner ttt	Not recommended	Recommended in recurrent infection	Recommended

	Gonorrhea	Chlamydia	Chancroid	Granuloma inguinale	Lymphogranuloma venerum
Causative Organism	Neisseria gonorrhea	Chlamydia trachomatis (D-K serotypes)	Haemophilus ducreyi	Klebsiella granulomatis	C. trachomatis L1, L2 & L3 serotypes
Clinical Picture	Acute cervicitis	Acute cervicitis	Painful genital ulcers	Painless genital ulcers with inguinal swelling	Local & regional Ulceration
Inguinal lymphadenopathy	-	-	Present	Absent	Present
Incubation P	2-5 days	-	3-5 days	-	3-5 weeks
Investigations	-Culture on Thayer-Martin -NAAT	-Microscopic ex. -NAAT	-	Scrapings from ulcers show Donovan bodies	CFT with titres >1/64
Treatment	Ceftriaxone 250 mg IM + Azithromycin 1 g orally	Azithromycin 1 g orally once	Azithromycin 1 g orally once	Doxycycline 100 mg orally twice a day for 3 weeks	
Sexual partner ttt	Recommended	Recommended	Recommended	-	-

NON NEOPLASTIC OVARIAN CYSTS

	Follicular cyst	CL cyst	Theca lutein cyst	Endometriotic cyst	Inflammatory cyst
Incidence	Most common	2 nd most common	-	-	-
Laterality	Unilateral	Unilateral	Bilateral		Bilateral
Locularity	Unilocular	Unilocular	Multilocular	-	-
Size	Small (3x7cm)	Small (3x7cm)	Large (>10cm)	-	-
Fluid	Clear	Hemorrhagic	Clear	Retained blood (RBCs in a thick dark material)	-
Cyst wall	Thin		Thin	Thick	-
Lining	Granulosa cells	Luteinized granulosa cells	Luteinized theca cells	Functioning endometrial tissue	-
Secretion	Estrogen	PRG	-	-	-
Etiology	Over-distension of atretic follicles OR unruptured dominant follicles	He inside CL during vascularization stage	High levels of FSH & LH (or hCG)	Presence of functioning ectopic endometrium within ovarian stroma	Spread of infection either direct or through lymphatics
Timing	Early child-bearing & peri-menopause	Child bearing & early pregnancy	-spontaneous (vesicular mole-choriocarcinoma-Multifetal pregnancy) OR - Iatrogenic during induction of ovulation using HMG/hCG	-	-
Symptoms	- Asymptomatic - Menstrual disorders: delayed cycles or intermenstrual spotting - Pain (if complicated by Hge or rupture)		- Pain - Suggestive history	- History of infertility - Dull aching chronic pelvic pain with dysmenorrhoea	- History of recent abortion, delivery or IUD - FHMA - Dull aching pelvic pain

				-Deep dyspareunia
Signs	<ul style="list-style-type: none"> - Tenderness at ovarian point - Fullness of the vaginal fornices - A small cystic mass may be felt in thin patients 	<ul style="list-style-type: none"> - Felt suprapubically if large, usually tender with restricted mobility - Abdominal distension * ascites in grade 3 & 4 OHSS 	<ul style="list-style-type: none"> - Tender almost fixed adnexal mass - Nodules & tenderness over the uterosacral ligaments 	<ul style="list-style-type: none"> - Marked fullness & extreme tender adnexae - Mass is fixed
Investigations	<ul style="list-style-type: none"> - US - Laparoscopy if in doubt or complicated 	<ul style="list-style-type: none"> - US - β-hcG very high in molar pregnancy & choriocarcinoma 	<ul style="list-style-type: none"> - TVS - CA125 - Laparoscopy 	<ul style="list-style-type: none"> -CBC→leucocytosis, shift to the Lt -+ve CRP & elevated ESR

BENIGN OVARIAN NEOPLASMS

	Epithelial tumors		
Incidence	60-70% of all ovarian neoplasms		
Types	Mullerian duct products		Wolffian ep. products
	Serous cystadenoma	Mucinous cystadenoma	Brenner
Incidence	10-15% of all ovarian neoplasms (MC benign)	2 nd MC benign	Rare (1-2% of all ovarian tumors)
Age	Old	-	Women > 40
Laterality	Bilateral in 30%	Unilateral	Bilateral in 10-15%
Size	Moderate (10-15cm)	Huge	Small (<2cm) to moderate
Consistency	Cystic		Solid
Types	1-Simple 2-Multilocular 3-papillary	-	-
Locularity	Simple → Uni Multi & Papillary → Multi	Multi	-
Content	Thin clear serous fluid	Bluish yellow transparent mucus	-
Malignant potential	50% in papillary type	< 5%	-
Microscopic/Lining ep.	Tubal like (cuboidal ciliated or non)	Endocervical (tall columnar rich in goblet cells)	Epithelial cell nests with coffee bean nuclei
Characteristic feature	Psammoma bodies	Rupture → pseudomyxoma peritonii	Hormonal function: may secrete estrogen

	Germ cell tumors			Sex cord stromal tumors	
Incidence	20-30% of all ovarian neoplasms			< 4% of all ovarian neoplasms	
Types	Benign cystic teratoma	Struma ovarii	Gonadoblastoma	Thecoma	Fibroma
Incidence	-50% in <20 years -MC in childbearing period	1-4% of cystic teratoma	-	-	
Age		-	-	Postmenopausal	50 years
Laterality	Bilateral in 12%	-	-	Unilateral	Unilateral in >90%
Size	Moderate (5-10cm)	-	-	-	
Consistency	Cystic	-	Solid	Solid	Solid
Locularity	Unilocular	-	-	-	
Content	Mamilla & polydermal tissue + sebaceous material	-	-	-	
Malignant potential	<1% (turns to SCC)	5-10%	Half → Dysgerminoma or other malignant germ cell tumors	-	
Microscopic/Lining ep.	Stratified sq. ep. with sebaceous glands	-	-	Arise from cells resembling theca interna cells	Derived from stromal cells
Characteristic feature	Long pedicle → Most liable to torsion	5% produce thyroid hormone	Abnormal gonad with a Y chromosome	Functioning tumor producing estrogen	Meig's syndrome in 1% (ascites + fibroma)

GYNECOLOGICAL MALIGNANCIES

	Endometrial carcinoma	Cervical carcinoma	Ovarian carcinoma
Age	> 60y	45-55 y	Epithelial → old near menopause Germ cell → <30y Sex cord → Any age
Parity	Low	High	Low
Etiology	Unopposed hyperestrogenemia	HPV infection	Recurrent ovulatory trauma
Spread	Direct	By Lymphatic	By Seedling
Presenting Symptom	Postmenopausal bleeding	Contact bleeding	Non specific

OVARIAN CANCER

Epithelial ovarian cancer			
Incidence	60-70% of all ovarian cancers (MC)		
Tumour marker	CA125		
Histological Types	Serous cystadenocarcinoma	Mucinous cystadenocarcinoma	Endometrioid
Age	59 Except Lynch type II & Borderline → Occur at a younger age		
Laterality	Bilateral in >50%	Bilateral in 20%	-
Size		Huge	-
Consistency	Cystic & solid components	Cystic & solid components	-
Locularity		Multilocular	-
Characteristic feature	Psammoma bodies	Pseudomyxoma peritonii in <5%	In 30% exists second primary in the endometrium

Malignant germ cell tumors					
Incidence	5% of germ cell tumors 2/3 of all ovarian neoplasms in women < 30 years				
Types	Dysgerminoma	Endodermal sinus tumour	Choriocarcinoma	Malignant teratoma	
				Immature	Malignant transformation in BCT (dermoid cyst)
Incidence	- MC malignant germ cell tumour - 1-3% of all ovarian cancers	- 2 nd MC malignant germ cell tumour - 1% of all ovarian cancers	Very rare	1% of all ovarian teratomas	<1% of BCT
Age	10-30	19-40	-	<15y	Postmenopausal
Laterality	Bilateral in 10%	Unilateral	Unilateral	Unilateral	-
Size	Small to moderate	Small	-	-	-
Consistency	Solid	Solid	Solid	Solid	-
Microscopic	-germ cells arranged in nests -Lymphocytic infiltration	Shiller Duval bodies	Sheets of malignant cytotrophoblasts & syncytiotrophoblasts	Immature neural tissue	SCC
Tumour marker	LDH	AFP	hCG	-	-
Characteristic feature	5% has abnormal gonads	Coexisting teratoma in 20%	May present with precocious puberty	-	-

	Malignant sex cord stromal tumors		Metastatic ovarian cancer	
Types	Granulosa cell tumour	Sertoli-leydig cell tumors	Typical	Atypical e.g. krukenberg
Incidence	5% of ovarian cancer	Rarest of all ovarian tumours → < 0.2%	5-6% of all ovarian tumors	
			-	30-40% of metastatic cancer to the ovary
Age	Any age	20-30	-	-
Laterality	Unilateral	Unilateral	-	Bilateral
Size		Small or moderate	-	-
Consistency	Solid	Solid	-	Solid
Microscopic	Call-Exner bodies in 50%	Sertoli or leydig	-	Signet ring cells
Tumor marker	inhibin	Androgens	-	-
Characteristic feature	75% secrete hormones namely estrogen others secrete inhibin	-	-	Reached both ovaries by retrograde lymphatic spread

DRUGS OF INDUCTION OF OVULATION

	CC	Pituitary goadotropins	hCG	GnRH analogues
Mode of action	Competes with endogenous E ₂ at the hypothalamus stimulating the hypothalamus to increase GnRH secretion to compensate for this artificially induced hypo-estrogenic state.	Stimulates follicular growth	Creating an artificial LH surge causing ovulation	Increase FSH production from the pituitary stimulating follicular growth
Mode of administration	Oral	Repeated I.M injection	Single I.M injection	Repeated SC injection OR nasal spray
Dose	50 mg twice daily for 5 days	From mid-follicular phase till complete follicular maturation	2 ampoules 5000 m/IU each	
Hypogonadotropic anovulation	Can't be used	Can be used		Can't be used
IVF/ICSI protocols	Not used	Used		
Side effects				
OHSS & MFP	Less frequent	More frequent		
Antiestrogenic effects on endometrium & cervical mucous	Present	Absent		

PLACENTA PREVIA VS PLACENTAL ABRUPTION

	PL PRV	Placental abruption
Types	- Central (Complete & Partial) - Marginal - Lateral Or: - Major - Minor	- Revealed - Concealed - Mixed
Pain	Absent	Present
Malpresentations	More common	Less common
Uterine tone	Normal	Hypertonic

STAGES OF LABOR

	Stage 1	Stage 2	Stage 3
Definition	Stage of cervical effacement & dilatation	Stage of delivery of the fetus	Stage of delivery of the placenta
Start	Onset of labour pains	Full cervical effacement & dilatation	Delivery of the fetus
End	Full cervical effacement & dilatation	Complete expulsion of the fetus	Complete expulsion of the placenta
Duration	12-18 h in PGDA 6-12 h in MGDA	1-2 h in PGDA <1 h in MGDA	10-30 minutes in both PGDA & MGDA
Abnormalities	- Prolonged latent phase - Prolonged active phase - Arrest of active phase	- Prolonged 2 nd stage - Arrest of descent	Prolonged 3 rd stage

*4th stage is the first 2 hours after delivery

ECTOPIC PREGNANCY VS VESICULAR MOLE

	Ectopic pregnancy	Vesicular mole
Pathophysiology	Failure of migration along the fallopian tube	Failure of fertilization (Complete: One or two sperms fertilizing an empty ovum Partial: 2 sperms fertilizing an ovum)
Pain	Unilateral pelvi-abdominal (May become sharp stabbing or colicky if ruptured)	Usually absent or minimal
PV	Unilateral adnexal mass	Bilateral (theca lutein cysts)
β-hCG	Lower than expected	Higher than expected
US	Absent intrauterine pregnancy	Snow storm appearance if complete OR Fetal echoes + vesicular hydropic changes of the placenta if partial
Management	Methotrexate OR Laparoscopy OR laparotomy	Suction evacuation OR Hysterectomy

COMPLICATIONS OF 3RD STAGE OF LABOUR

	1 st ry PPH	Retained placenta	DIC
Definition	<p>Blood loss > 500 cc after VD or 1000 cc after CS affecting general condition</p> <p>Immediately or within first 24 hours, after delivery.</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p>2ndry PPH: delayed > 24 hours, till end of puerperium (6w postpartum)</p> </div>	<p>Placenta failed to be expelled within 30 min after fetal delivery</p>	<p>- Widespread hematological condition of accelerated fibrin formation & lysis resulting in consumption of platelets & coagulation factors</p> <p>- Signs of hypofibrinogenemia appears when it is <100 mg/dl</p>
Etiology	<p>MC: uterine atony (Placental site hge) /Trauma of genital tract/ Retained placental fragments or tissue/ low lying placenta</p> <p>Rare: Acute inversion of ut/ Coagulation disorder / amniotic fluid embolism</p> <p>(Risk factors see p 157)</p> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: fit-content;"> <p>2ndry PPH</p> <ul style="list-style-type: none"> - MC: Retained placental fragments - 2ndry Hge from genital tract tear - Sloughing of an infected submucous fibroid polyp - Undiagnosed chronic uterine inversion - Choriocarcinoma: ms (rare) </div>	<p><u>o Retention of separated placenta</u>: atony of uterus /contraction ring /rupture of uterus & expulsion to peritoneal cavity</p> <p><u>o Retention of non separated placenta</u>: atony of uterus / defective placentation : decidua basalis is absent or defective>> direct adherence of chorionic villi into myometrium e absent plane of cleavage(accrete – increta – percreta)</p> <p>Risk factors see p 161</p>	<p>Common:</p> <ul style="list-style-type: none"> - massive blood loss with inadequate replacement -massive colloid or crystalloid replacement - placental abruption -severe PE or eclampsia or HELLP \$ <p>Rare:</p> <ul style="list-style-type: none"> - Acute hemolytic transfusion reaction - Retained dead fetus

			(>3-4w) - sepsis or septic shock - acute fatty liver of pregnancy - Amniotic fluid embolism -Autoimmune disease, - adult RDS- hematological malignancy- solid tumors Physio & Mechanism see p 167
Symptoms	Sudden severe continuous vaginal bleeding after delivery of fetus or placenta +/-hypovolemic shock(tachycardia, tachypnea ,hypotension, oliguria)	Failure of placental delivery within 30 min after fetal delivery <u>o Cases of uterine atony :</u> c/p of atonic PPH e retained separated placenta <u>o Cases of contraction ring :</u> revealed by vag exam e 1 h& inside the ut usually e severe PPH <u>o Cases of adherent placenta :</u> PPH is usually not severe. Manual removal attempts may provoke severe bleeding	APH or PPH / persistent bleeding from Venipuncture / spontaneous bleeding from gums or nose /generalized oozing in surgical fields / purpuric areas <u>Investigations :</u> -FDPs & fibrin D dimer (N:absent) - prolonged PT & PTT (PTT may be N) -low fibrinogen & platelet count & antithrombin3

						<p><u>-Weinwer (clot observation) test:</u></p> <p>5-10cc blood is incubated in a test tube at 37c</p> <p>N: clot forms within 3-8 min</p> <p>if clot is formed after longer period & dissolve in 1 hour → hypofibrinogenemia</p> <p>if no clot is formed → afibrinogenemia</p>
Signs	Atonic: Soft lax ut e rising fundal level dt blood accumulation Dilated cx	Traumatic:		Retained placental fragments: -Subinvoluted ut e moderate atony -Placental exam: missing cotyledons -Digital exam through cx & US >> retained	Acute inversion of ut: +/- deep pelvic pain Bimanual >> fundal cupping +/- mass protruding from cx +/-US	
		Genital tract tear: Contracted(firm) normally involuted ut Bleeding from perineal, vag, cx tears	Rupture uterus: Sudden severe ab pain then stop of ut contractions ut may fail to contact Bleeding from ut cavity Signs of intraperitoneal hge or broad			

			ligament hematoma	tissue		
Management	<p style="text-align: center;"><u>o Prevention:</u></p> <p>Proper ANC / proper manage of 1st & 2nd stage of labor / active manage 3rd stage/proper inspection of placenta &proper exploration of birth canal after delivery /proper use of ecbolics during & after delivery/ proper use of episiotomy</p> <p style="text-align: center;"><u>o Treatment:</u></p> <p>Resuscitation & Anti-shock measures:</p> <p>Adequate ventilation</p> <p>2 wide pore cannula e blood sampling for group, Rh ,cross match/CBC ,electrolytes ,sugar, liver ,kidney/ coagulation (“PT, PTT, fibrinogen, FDP”) & urinary catheter</p> <p>Continuous Monitor vital signs(pulse, temp, BP,RR), urine output, CVP</p> <p>IV infusion e saline, dextrose, lactated ringer</p> <p>Blood reservation for emergency</p> <p>Warmth, recumbent e legs slightly raised</p> <p>Morphine for pain & apprehension if needed</p> <p>Inotropic drugs e.g. dopamine, dobutamine</p>					<p>o of cause</p> <p>o Two wide bore IV cannula are inserted</p> <p>o If PT > 1.5 times control value →fresh frozen plasma till it becomes within 2-3 sec of control value</p> <p>o If fibrinogen level < 100 mg/dl →ten units of cryoprecipitate or fibrinogen 4-10 g IV</p> <p>o If platelet count < 20,000/cmm or significant bleeding with < 50,000/cmm → platelet transfusion</p> <p>o Antifibrinolytics (amino caproic acid) is not recommended in most types of obstetric coagulopathy (to avoid organ ischemia & infarctions) unless all the above failed to control</p>

							bleeding o Heparin infusion to stop coagulation
	Atonic: o Immediate Ecbolics: -Oxytocin (syntocinon) I.V drip -Ergometrin (Methergin) 0.2–0.5 mg, I.M. -Mesoprostol (Cytotec) 800 ug transrectal o External uterine massage o If failed: Internal uterine massage (Bimanual compression of the ut) o If failed:	Traumatic: <u>Genital tears:</u> lry suturing after thorough exploration <u>Rupture uterus:</u> Laparotomy exploration & lry surgical repair or ab hysterectomy (if extensive beyond repair & bleeding is severe threatening life especially in old multipara e no fertility desire)	Retained placental fragments: -Ecbolics -Digital removal of placental fragment thorough the open cx -Evacuation by ovum or ring forceps under general anaesthesia	Acute inversion of ut: Immediate reposition under anesthesia	Coagulation disorder: replacement e blood or blood components	<u>o Cases of uterine atony:</u> Ecbolics Gentle ab uterine massage Br&et-&rews manoeuvre: controlled cord traction e suprapubic pressure Manual separation & removal of placenta: by a shearing side movement of palm & fingers to create a plane of cleavage then placenta is grasped & removed manually	

	laparotomy & ligation of vessels & If failed: hysterectomy		<div>During laparotomy in cases of atonic PPH (not responding to the above) or ut rupture: (do in sequence): - lry surgical repair of ut rupture - Bilateral ligation of uterine & ovarian arteries - Bilateral ligation of Internal iliac artery - Subtotal hysterectomy - Total hysterectomy if extensive cx tear not responding to lry suturing</div>		<p><u>o Cases of contraction ring</u></p> <p>: deep general inhalation anaesthesia</p> <p><u>o Cases of adherent placenta</u></p> <p><u>Placenta accrete:</u></p> <p>Mild(manual separation & removal) Marked(CS & manual removal)</p> <p><u>Placenta increta</u></p> <p><u>or percreta:</u></p> <p>laparotomy & subtotal or total hysterectomy</p>	
Complications	Hypovolemic shock (Acute renal failure, DIC..) /of Acute blood loss (Sheehan's Syndrome) / Puerperal sepsis /Maternal Morbidity (hysterectomy) &mortality if delayed management			Atonic lry PPH /2ry PPH dt retained fragment/ shock / puerperal sepsis /subinvolution of uterus / placental polyp/ choriocarcinoma		

SHOCK (PAGE 163)

Circulatory impairment ccc by decreased tissue perfusion >>abnormal cellular functions & metabolism e possible altered mental status (somnia) & oliguria (urine output < **30 ml/h**)

	Hypovolemic	Septic(septicemic)	Neurogenic
Etiology	Bleeding or fluid loss(hyperemesis, diarrhea, nasogastric suction)	Infection	Pain or trauma & tissue damage as in: <u>4 SPONTANEOUS:</u> -Disturbed ectopic pregnancy -Concealed accidental He -Rapid ut evacuation as in ppt labor & polyhydromnios -Retained placenta esp >2h <u>5 BY DOCTOR:</u> ----- 3 UTERUS: -Repeat rough attempts at Crede's method -Rupture ut or cx tear extending to LUS -Acute inversion of ut ----- 2 FROM BELOW: -Difficult forceps delivery or breech extraction(esp if not fully dilated cx) -Difficult internal version
C/P	<u>Vital signs:</u> Tachypnea , Tachycardia (rapid weak pulse) Hypotension , Hypothermia	<u>Vital signs: 2F 4C</u> As hypovolemic except Fever	<u>Vital signs:</u> All decrease

	A nxious (restless) P ale(blood shift to brain, adrenal & heart— superficial veins are collapsed) C old sweat	C onfusion, somnolence, C oma F lushed (VD of skin BV) T hrombocytopenia, C onsumptive coagulopathy (DIC), Leukocytosis	A pathy Superficial veins are full of blood
TTT	See above	See above+ antibiotics	See above+ morphine

PROM, PTL & POST-TERM

	PROM	Preterm labor (PTL)	Post term(Prolonged) pregnancy (PTP)
Definition	Rupture of fetal membranes at any time before onset of labor whether at term or preterm	Onset of frequent uterine contractions associated with progressive cervical effacement & dilatation after fetal viability before 37 W early PTL <34w „Late PTL 34-36 w	Pregnancy lasting for 42 w or more after 1st day of LMP (>294 d)
Etiology	Idiopathic (spontaneous) /infection: ascending from LGT especially GBS, trichomonas /cervical incompetence / polyhydramnios & multifetal preg /local membrane defects /smoking	<u>* Major Risk factors :</u> o PROM (from PGL release), IUFD, previous PTL o Ut anomalies (septate & bicornate), leiomyoma o Ut aoverdistension (twins, MFP, polyhydramnios, macrosomia) o Short cx canal by TVS >24w (<2.5cm) <u>*Other Risk factors :</u> /Systemic extrauterine infections , UTI, Chorioamnionitis /Successive short interval deliveries (<18m) /malnutrition /severe anemia /smoking/substance abuse /Placental abnormalities: Placenta praevia (dt early separation with formation of the lower segment). Placental abruption (retroplacental haemorrhage provokes early uterine	*Idiopathic *Uncertain dates: dt inaccurate or unknown LMP or irregular ovulation *Anencephaly: dt proposed lack of fetal labor initiating factor from fetal adrenals dt absent hypothalamic pituitary regulation *placental sulfatase deficiency

		contractions)	
Diagnosis	<p>o <u>Symptoms</u> : sudden gush of copious amount of fluid from vagina</p> <p>o <u>Inspection</u>: clear clean colorless odorless fluid flowing out of vagina</p> <p><u>oSterile Speculum</u> :</p> <p>oPool +ve :pooling of amniotic fluid in post fornix</p> <p>o Nitrazine +ve :vaginal pool fluid turns the PH sensitive nitrazine paper into blue</p> <p>oFern +ve :it elicits a ferning pattern under microscope when left to air dry on a glass slide</p> <p>o <u>US</u> : decreased amount of liquor</p> <p><u>oFetal fibronectin & alpha fetoprotein</u> in vaginal pool fluid</p> <p><u>o Chorioamnionitis diagnosis:</u></p> <p><u>c/p</u>: maternal fever & ut tenderness in confirmed PROM in absence of UTI or RTI</p> <p><u>Lab</u>: inc CRP & ESR & TLC Abnormal DLC e inc staff/segmented WBC ratio (shift to left) e toxic granules</p>	<p><u>GA</u>:24-37w</p> <p><u>Ut</u>: at least 3 contractions in 30 minutes (true labor pains)</p> <p><u>Cx</u>:</p> <p><u>Single exam</u>: effacement 50% or more & dilation >2cm OR</p> <p><u>Serial exam</u>: significant change in effacement & dilation</p> <p><u>o Prediction (difficult)</u> :</p> <p>/frequent menstrual like abdominal cramps / low backache / vaginal discharge increased</p> <p>/ Short cx canal by TVS >24w (<2.5cm)</p> <p>/ fetal fibronectin in vaginal fluid in 24-32 w:</p> <p>-ve (absent FFN): <1% chance of PTL within 2w</p> <p>+ve(present FFN):50% chance of PTL within 2w</p>	<p>Confirm GA & exclude miscalculation via reliable LMP& 1st 1st trimester US</p>
Management	<p>C / C /no C &no C → GA</p> <p>o ut Contractions (labor pains)</p> <p>started: labor is allowed as tocolysis is contra for fear of chorioamnionitis</p> <p>o Chorioamnionitis diagnosed:</p>	<p>1- Allow PTL to proceed : vaginally, or CS,</p> <p>& managed accordingly in a well equipped neonatal ICU.</p> <p>❖ <u>Indications may be :</u></p> <p>/ Adequate fetal lung maturity (34-36 w)</p>	<p>1-Exclude miscalculation.</p> <p>2-Assessment of the fetal well being (placental function & fetal growth) :</p>

	<p>Cervical culture obtained, IV broad spectrum antibiotics, preg termination promptly (induced labor or CS)</p> <p>o No ut Contractions & no Chorioamnionitis:</p> <p><u>o Late preterm >34 W or term > 37 W:</u></p> <ul style="list-style-type: none"> ❖ <u>Wait for spontaneous labor pains</u> which develop in 24-48 Hr under cover of prophylactic antibiotics & close fetal monitoring <p><u>Immediately terminate if</u> fetal condition is not reassuring or signs of infection appeared or labor pains did not start in 24-48h (either by induction by oxytocin or PG or CS)</p> <p><u>o Early preterm < 34 W:</u></p> <p><u>Hospitalization & conservative management</u> until labor pains develop or lung maturity achieved (either documented by amniotic fluid L/S ratio or by reaching the GA of lung maturation)</p> <ul style="list-style-type: none"> -with daily fetal monitoring & repeated maternal assessment of WBC & CRP - Cervical cultures, prophylactic antibiotics (ampicillin /erythromycin 	<p>/Contraindication of tocolysis</p> <ul style="list-style-type: none"> ❖ <u>Management during labor:</u> <p>/continuous electronic monitoring</p> <p>/ avoid prolongation of 2nd stage / episiotomy to minimize head compression & ICH</p> <p>/ CS in preterm breech & extreme LBW</p> <p>/vitaminK1 to neonate to reduce IVH</p> <p>2- Tocolytic therapy :</p> <p><u>Indications :</u>preterm < 34 -35 w</p> <p><u>Contraindication:</u></p> <p>/Antepartum hge or ROM or chorioamnionitis or advanced cx dilation & effacement</p> <p>/ severe IUGR with marked placental insufficiency.</p> <p>/ fetal distress or congenital anomalies incompatible e life (lethal) as anencephaly or IUFD</p> <p>/ Severe maternal illness that precludes continuation of pregnancy as in severe PE,eclampsia, uncontrolled chronic hypertension, severe cardiac, renal or liver disease</p> <p><u>Aim :</u> Prolongation of pregnancy by inhibiting uterine contractions until:</p> <ul style="list-style-type: none"> -Transfer of patient to a centre equipped with a more advanced neonatal ICU. -Enhancement of fetal lung maturity by use of corticosteroids. 	<p>#Normal function: normal umbilical artery Doppler + tendency to LGA</p> <p>#Placental insufficiency: abnormal umbilical artery Doppler, SGA, IUGR, oligohydramnios</p> <p><u>If:</u></p> <p>40 to 42 w without complications:</p> <p>Wait for spontaneous labor pains e weekly assessment of the fetal well being)daily fetal movement count (DFMC), NST,BPP, Doppler):</p> <p>If good>> wait till 42w completed</p> <p>If non reassuring>> termination of pregnancy</p> <p>42 w & more or complications (eg: LGA or IUGR e <u>placental insufficiency</u>):</p> <p>Termination of pregnancy by:</p> <p>Induction of labor(oxytocin/PGL): If favourable cx (score>8) & normal fetal well being</p> <p>CS: If unfavourable cx (score <8) or compromised fetal condition, or evidence of placental insufficiency (oligohydramnios, non reassuring NST ,abnormal</p>
--	---	---	---

	<p>7 days)</p> <p>– IM corticosteroids</p> <p><u>immediate delivery</u> if spontaneous labor pains – fetal lung maturity– fetal condition is not reassuring – evidence of chorioamnionitis</p>	<p><u>Drugs:</u></p> <p><u>IV:</u></p> <p><u>Beta agonists as Ritodrine HCL,</u></p> <p><u>Terbutaline:</u></p> <p>-B2 stimulant>> myometrial relaxation</p> <p>-<u>Side effects:</u> maternal tachycardia ,tachypnea, hypotension ,hypoglycemia, pulmonary edema</p> <p>-<u>Contra:</u> cardiac disease , DM, hyperthyroidism</p> <p><u>Mg sulfate (IV infusion):</u></p> <p>Competitive inhibitor of Ca</p> <p><u>Dose monitored</u> by detectable deep tendon reflexes</p> <p><u>Toxicity:</u> ms weakness, cardiac arrest , respiratory depression, pulmonary edema</p> <p><u>Antidote:</u> IV Ca gluconate</p> <p><u>Anti oxytocin (Atosiban) (IV infusion e</u> titrated doses):</p> <p>Block oxytocin receptors>> inhibit ut contraction efficiently</p> <p><u>Oral:</u></p> <p><u>Calcium channel blockers (Nifedipine):</u></p> <p>Dec intracellular Ca</p> <p>-Side effects: hypotension, tachycardia, pulmonary edema</p> <p>Prostagl&in synthetaze inhibitors</p> <p>(<u>Indomethacin</u>):</p> <p>-Dec PGs production → dec smooth ms activity</p>	<p>Doppler, BPP)</p> <p>SEE Bishop score p.175</p>
--	--	---	--

		<p>-Side effects: Oligohydramnios, premature closure of the ductus arteriosus, NEC</p> <p>-Contra: >32w</p> <p>Beta agonists: can also be administered orally, however their use is controversial & their effect is doubtful</p> <p><u>Duration:</u></p> <p><u>Short term tocolysis, (48-72 hrs):</u> to gain time for corticosteroids effect, &for mother's transfer to a better center in dealing e prematurity.</p> <p><u>Long term tocolysis:</u> is of doubtful clinical value. In addition to many side effects on long term use</p> <p>3- Corticosteroids :</p> <p><u>Aim:</u> To accelerate fetal lung maturity & minimize incidence & severity of RDS [via stimulation of fetal type II pneumocytes to produce surfactant], ICH(IVH), NEC. (ICH NEC has RDS)</p> <p><u>Indication:</u> PTL < 34 weeks.</p> <p><u>Dose:</u></p> <p>Betamethazone: 2 IM. 12 mg each, given 24 hrs apart. OR</p> <p>Dexamethazone: 4 IM. 6.0 mg each given 12 hrs apart</p> <p>4- Antenatal MgSO₄ (IV infusion):</p> <p>Dec risk & severity of CP (dt its</p>	
--	--	---	--

		<p>neuroprotection effect) in extremely preterm <28w (or <32w in case files). It takes 4 hrs to achieve a steady Mg level in newborn</p> <p><u>5- Antibiotics:</u></p> <ul style="list-style-type: none"> -For associated infection or in PROM -As a prophylaxis from infection <p><u>O Prophylactic IM progesterone (15 α- OH PRG caproate):</u></p> <p>Weekly from 20w onwards >> decrease incidence of PTL in patients e history of PTL</p>	
--	--	--	--

<p>Complications</p>	<ul style="list-style-type: none"> o PTL: in most cases labor will start within few hours after ROM >> if <37w >> prematurity & its complications o chorioamnionitis: by ascending infection from LGT (ms is GBS) >> <u>maternal</u>: septicemia, septic shock, puerperal sepsis <u>intrapartum fetal</u> affection: neurologic morbidity, pneumonia, RDS, death o placental abruption in cases of polyhydramnios & MFP o oligohydramnios risks / cord compression, fetal bradycardia & hypoxia / pulmonary hypoplasia / compression deformities 	<p><u>Fetal: Prematurity complications:</u></p> <p>/ <u>Birth trauma</u>: as IVH dt head compression</p> <p>/ <u>RDS</u> dt dec surfactant (mainly lecithin) >> lung collapse >> dyspnea & cyanosis occurs 1-2 hrs after delivery</p> <p>/ <u>neonatal hypothermia</u>: incr heat loss dt dec subcutaneous fat & immaturity of heat regulation center.</p> <p>/ neonatal sepsis dt decreased antibodies transferred from the mother / anemia/ malnutrition / bleeding tendency dt hypoprothrombinaemia</p> <p>/ Hyperbilirubinemia dt immaturity of liver enzymes / NEC / CP</p> <p>/ Iatrogenic: retrolental fibroplasia (Retinopathy of prematurity) or alveoli rupture</p> <p>/ neonatal mortality(a major cause of neonatal death).</p> <p><u>Maternal</u>: Increased risk for recurrent PTL & midtrimesteric abortion./ Chorioamnionitis & its sequelae</p>	<p>Inc risk of perinatal mortality dt abnormal placental fun & disordered fetal growth over time</p> <p><u>1-Macrosomia</u>: In most cases 80%: Normal placental function continues >> advanced growth & LGA >> more prone to prolonged difficult obstructed labor, shoulder dystocia, fetal & maternal birth injuries >> CS rate is high to avoid these complications</p> <p><u>2-Post maturity syndrome</u>: less common 20%: Placental insufficiency by ageing, infarction, scarring >> fetal dysmaturity syndrome & IUGR >> more prone to neonatal asphyxia responsible for increased perinatal morbidity & mortality >> CS rate is high in association e oligohydramnios, cord compression, hypoxia, meconium stained amniotic fluid, fetal meconium aspiration</p>
-----------------------------	---	---	--

OLIGO & POLYHYDRAMNIOS SGA & MACROSOMIA

	Oligohydramnios	Polyhydramnios	SGA	Macrosomia
Definition	AFV <5th percentile for GA or <500ml or AFI < 5 or largest fluid pocket (AFL) < 2cm by US after 28w (3 rd trimester)	AFV above 95th percentile for GA or >2000 ml or AFI > 25 or largest fluid pocket(AFL) > 8cm by US after 28w (3rd trimester)	fetus failed to reach full growth potential (< 10 th percentile on the weight for age growth curve)	fetus with absolute birth weight > 4-4.5 kg
Etiology	<p>Incidence: 3-4 % (& ++ in association e IUGR & placental insufficiency)</p> <p>Causes:</p> <p>*Undiagnosed ROM: may be confused e increased vaginal discharge</p> <p>*Placental insufficiency as in IUGR, PE, PTP</p> <p>*Fetal congenital anomalies: Renal anomalies (hypoplasia or agenesis) are the most common cause.</p> <p>*Drugs e.g. Indomethacin (--</p>	<p>Incidence: 0.5-1.5 %</p> <p><u>o Idiopathic :most cases</u> dt imbalance between production & absorption</p> <p><u>o Fetal causes :</u></p> <p><u>1-Twins , MFP:</u> dt large surfaces producing AF (placenta & membranes)</p> <p><u>2-Fetal anomalies as:</u></p> <p>Anencephaly: dt. passage of fetal CSF into the amniotic fluid, fetal polyuria dt absent secretion of ADH, & failure of fetal swallowing.</p> <p>Esophageal & duodenal atresia dt failure of fetal swallowing of the liquor.</p> <p>Obstruction of the fetal venous</p>	<p><u>1- Constitutionally small :</u> if woman started pregnancy < 42 kg</p> <p><u>2- Growth restriction (retardation) "IUGR":</u></p> <p><u>o Symmetrical</u> <u>IUGR:Type1:20%</u> dt fetal injury very early in development (intrinsic to fetus):</p> <p>Poor (lack or arrest) maternal wt gain: esp after 28 w</p> <p>Fetal infections: Viral: Rubella, Cytomegalovirus, Hepatitis, varicella, influenza Bacterial: Listeriosis,</p>	<p>Incidence: 5%>4 kg, 0.5%>4.5kg</p> <p>Risk factors :</p> <p>-Maternal DM (mc) -Post-term -Maternal obesity (a prepregnancy wt >90kg) -Increased maternal height. -Multiparity -Prior macrosomic infant</p>

	<p>fetal renal perfusion>> -- urine production)</p>	<p>circulation → edema of the placenta & inc transudation from fetal circulation as in cases of fetal liver cirrhosis & hydrops fetalis (plus large placenta in hydrops fetalis)</p> <p><u>3-Placental chorioangioma.</u></p> <p><u>4-Large placenta:</u> dt increased area of chorionic villi available for transudation.</p> <p><u>o Maternal causes :</u></p> <p>*DM (mc cause): dt inc osmolarity of the amniotic fluid dt increased glucose concentration & fetal polyuria associated with fetal hyperglycemia.</p> <p>*Severe generalized edema: Cardiac, renal or nutritional.</p> <p>*Rarely Pre-eclampsia dt placental edema.</p> <p><u>Types:</u></p> <p><u>Acute:</u></p> <p>Less common more serious / rapid accumulation <20 W causing early symptoms / ends in abortion or extremely preterm / marked pressure symptoms/usually in</p>	<p>tuberculosis, syphilis(in syphilis, placenta inc in size & wt dt edema & perivascular inflammation)</p> <p>Congenital malformations (the more severe ,the more likely) eg:CVS ,renal</p> <p>Chromosomal abnoramlitis : triosomies esp 13,18,21</p> <p>Skeletal anomalies:eg osteogenesis imperfecta</p> <p><u>o Asymmetrical IUGR</u></p> <p><u>:Type2:80%</u></p> <p>*dt fetal injury later in pregnancy dt maternal disease (extrinsic to fetus) leading to</p> <p><i>chronic placental insufficiency via:</i></p> <p>-- uteroplacental blood flow: as hypertensive disorders.</p> <p>-- O2 & nutrient transfer: as sickle cell disease.</p> <p>-- placental size e' infarcts & vasculopathy: as PIH & DM</p> <p>*Fetus reacts to this by redirecting its blood flow to be maintained to the brain & decreased to most visceral</p>	
--	---	--	--	--

		uniovular twins & fetal anomalies <u>Chronic:</u> more common , less serious unless severe / gradual accumulation > 24 W causing late symptoms / ends in completed successful pregnancy or late preterm / less pressure symptoms/ usually idiopathic or dt DM <u>DD:</u> other causes of fundal level disproportionate to GA as: miscalculation ,MFP, oversized fetus, associated uterine myomata and ovarian cysts	organs“ Brain sparing” phenomenon This will result in: -Abnormal head to abdominal circumference ratio(++ HC/AC) -Reduced renal perfusion & dec urine output >> oligohydramnios <u>*Causes:</u> Vascular disease: HTN(chronic ,preeclampsia) - DM Chronic renal disease: renal insufficiency Chronic hypoxia : maternal cyanotic heart disease Placental & cord abnormalities : focal placental abruption , infarction, chorioangioma / Marginal or velamentous insertion of cord	
Diagnosis	<u>*History:</u> leaking amniotic fluid in case of ROM <u>*Symptom:</u> no progressive abd e++ e advancement of pregnancy. <u>*Signs:</u> abdominal girth,	<u>o Symptoms:</u> Progressive abd e++ in a short period of time. <u>In severe cases:</u> Respiratory embarrassment (dt pressure on diaphragm and lung restriction) &	<u>o Proper pregnancy dating :</u> accurate LMP ,not US of late 2 nd or 3 rd trimester <u>o Symphysial fundal height measurement :</u> bet 20-34 w if <2 cm from expected height	<u>-Clinical</u> estimates of fetal size are (by Leopold mano or fundal ht)often unreliable <u>-US</u> estimate of fetal wt: reasonably accurate e only 15-20% error (but more

	contour, fundal level < expected for GA. *US: -Diagnosis e an AFI< 5 - Cause detection. (e.g. placental insufficiency, renal agenesis, postmaturity...) -Evaluation of fetal well-being (BPP score, umbilical and cerebral artery Doppler)	pressure symptoms(abdominal discomfort & LL edema) o Signs (Abdominal exam): /over distention & excessive striae /abdominal girth, contour, fundal level > expected / fetal parts not easily palpated /malpresentation , MFP& nonengagement are common /marked external ballotment o US : -Diagnosis-Cause detection -Evaluation of fetal well-being -Severity evaluation: Mild :AFL pocket >8cm Moderate:AFL pocket >12cm Severe:AFL pocket >16cm	→poor growth o US: /fetal weight < 10 th percentile /↓ BPD&AC Or altered AC/HC ratio /Associated oligohydramnios /Accelerated placental ageing (early grade3 <34w e calcifications) /Abnormal umbilical & cerebral artery doppler flow indices (dec umbilical & preserved or inc cerebral in asymmetric IUGR)	difficult in obese women)
Management	Near term or late preterm esp if e placental insufficiency or lethal fetal congenital anomalies e.g. renal agenesis: Pregnancy termination Extremely preterm: Amnio-infusion to avoid complications of long term oligohydramnios: -Intra amniotic injection of 250-350 ml warmed saline into the uterus done under us guidance to improve visualization and help detect fetal anomalies.	o Mild & moderate (usually chronic): Conservative management till spontaneous labor pains start: e reassurance, follow up , diagnosing & establishing the underlying maternal or fetal cause if present o Severe : Term > 37 w or evidence of adequate fetal lung maturity): Termination of pregnancy by labor induction or CS : Acc to fetal well being,lie & presentation, placental localization, maternal general condition , bishop score etc	o Near term: prompt delivery whether sym or asym o Preterm : Symmetrical : -Exclude important fetal congenital or chromosomal anomalies (by detailed US fetal anatomy scan, amniocentesis, cordocentesis) & manage -Screen for Toxoplasmosis, Rubella, CMV, Herpes viruses & treat	Prevention: -Control of maternal DM -Obese women should lose wt before conception & once pregnant should gain less wt than average patient TTT: 1-During pregnancy: Serial US to chart fetal growth & exclude anomalies. 2-Labor Induction >37w: (to minimize the need for CS) controversial, should only be

	<p>-Rarely, It may also be done during labor (in cases of ROM) via transcervical catheter infusion, to prevent umbilical cord compression & fetal distress necessitating CS</p>	<p>(Aim: to relieve maternal distress and pressure symptoms)</p> <p>Preterm < 37 w:</p> <p>Conservative to prolong pregnancy until fetal lung maturity is adequate or IM steroids take enough time for lung maturity:</p> <p>1-Amniocentesis: Repeated removal of 1-1.5L of amniotic fluid, via a needle trans-abdominally under US guidance, in a slow rate to avoid placental abruption & ROM</p> <p>2-Drugs as Indomethacin: may decrease fetal urine production & increase fetal lungs fluid absorption (limited use due to its premature closure of DA risk)</p> <p>3-Close observation after delivery: for uterine inertia, PPH</p>	<p>-Evaluate fetal well being (in normal fetus): Once the fetus starts being compromised, termination of pregnancy is advised</p> <p>Asymmetrical:</p> <p>*Antepartum fetal surveillance if:</p> <p>-Not severely affected: continue pregnancy & repeat testing</p> <p>-Severely ill → immediate termination, otherwise IUFD will occur</p> <p>*Control of maternal cause</p>	<p>to highly selected cases</p> <p>3-Elective C.S: If US EFW ≥ 4250 esp in diabetic</p> <p>4-Vaginal delivery: If attempted, anesthesia staff & neonatal resuscitation team must be available & assisted instrumental VD MUST BE AVOIDED.</p>
Complications	<p>*Pulmonary hypoplasia, compression limb deformities, amniotic adhesions, esp in severe prolonged oligohydramnios before 26 weeks gestation</p> <p>*Umbilical cord compression >> fetal hypoxia</p> <p>*Complications of associated IUGR & placental insufficiency.</p>	<p>o Pregnancy: -PTL (miscarriage). Acute & early cases may cause abortion.</p> <p>-Maternal respiratory distress & discomfort (only in severe & acute)</p> <p>o Labor: higher incidence of:</p> <p>-Inertia (dysfunctional labour)</p> <p>-Malpresentations (higher incidence of C.S.)</p> <p>-PROM (increased intrauterine pressure)</p>	<p><u>Fetal:</u> FHR abnormalities during labor, asphyxia & IUFD.</p> <p><u>Neonatal:</u></p> <p>*<u>Immediate</u> (50%): meconium aspiration, hypoglycemia, polycythemia, pulmonary hypoxemia.</p> <p>*<u>Late</u> (2%): Cerebral dysfunction (mild to cerebral palsy).</p>	<p><u>Fetal:</u></p> <p>- Birth trauma (shoulder dystocia & brachial plexus palsy)</p> <p>-IUFD (in diabetic macrosomia or serious congenital malformations)</p> <p>-Hypoglycemia, polycythemia, hypocalcaemia, jaundice.</p>

	<p>*fetal hypoxia e its complications eg fetal distress, meconium aspiration ,IUFD</p>	<p>-Cord presentation and prolapse (fetal distress & urgent C.S)</p> <p>-Accidental hge if sudden ROM (acute decrease intrauterine Pressure)</p> <p>-PPH(atonic e over distension, traumatic e malpresentations)</p> <p>oFetus : prematurity dt PTL / of associated congenital anomalies or maternal DM/ asphyxia dt cord prolapse or accidental Hge</p>	<p>SEE IUFD (DEMISE) P.188</p>	<p>Maternal:</p> <p>-Higher inc of C.S</p> <p>-Traumatic injuries of birth canal, PPH ,puerperal infection</p>
--	---	--	---------------------------------------	---

REFERENCES

1. Wikipedia.
2. Dr. Mandooh mind maps.
3. National organization of rare diseases.
4. Oxford handbook of obs and gyn. 3rd ed.
5. Rapid ob & gyn 2nd ed.
6. William Gynaecology 3rd ed.
7. Radiopedia.org.
8. Case files.